

Towards a green and sustainable Dollard dike

A changing frame of the water board?

Master Thesis

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“Everything that is really great and inspiring is created by the individual who can labor in freedom”

Albert Einstein

Preface

Approximately two years after the start of the double degree master program 'Water and Coastal Management', this thesis can be delivered. This program allowed me to be educated both at the Carl von Ossietzky University in Oldenburg and the University of Groningen. The first year in Oldenburg was an interesting experience: not more than six students followed the program, the program was adjusted several times during the year, and almost a year after the last paper all my grades were finally listed correct. Nonetheless, when looking back at this year, it taught me so much. Especially the emphasis on writing papers turned out to be very useful, as well as the informal and interactive way of teaching. The second year in Groningen, in which we joined the master 'Environmental and Infrastructure Planning', was way more structured. There was a clear line in the courses, and many of this has also been used in this report. Because there were such large differences between the two universities, I consider the cooperation program to have been very useful for both my scientific development and my personal development.

This thesis deals with the water board Hunze & Aa's, with a specific focus on the Dollard dike project. I got involved in the Dollard dike project via Erik Jolink. When I was orienting for an interesting topic for this thesis, I sent an e-mail to the water board with the question if they had something that would suit my desires. Erik Jolink subsequently gave me a call, and explained about the Dollard dike project and the possibilities of this project for my thesis. This was exactly the moment that initiated the process of this report, of which the result is lying in front of you at this particular moment.

From that moment up to now it has been an intensive but interesting ride. I cannot say that I underestimated the whole process, but it definitely was a process of hard work and discipline to actually arrive at this moment of delivery. When looking at this report after this intensive process, I can only say that all the hard work was well worth the effort. However, I was not the only one who put efforts into this thesis.

The first person who I would like to thank is Erik Jolink from the water board Hunze & Aa's. In addition to one of the interviewees for this report, he was also my contact person. Next to the fact that he provided lots of information and that he introduced me to many people in the water board, it was also really inspiring to see how enthusiastic an individual can be about his work. Without him the process towards this report, and hence this report itself, would not have looked the same.

Secondly, I would like to thank Stefan Hartman, my supervisor from the University of Groningen. We sat together multiple times during the thesis process, and every time he triggered my thoughts and helped me get closer to the finalization of my thesis.

Frank Ahlhorn is the third person that I would like to thank specifically. Initially he was going to be my second supervisor, however this was changed at the last moment. Nonetheless I would like to thank him for his time and his comments along the way.

At fourth, I would like to thank Ingo Mose, who eventually was assigned as my second supervisor. Thanks for the comments on my thesis, but also for your support and enthusiasm during the first year in Oldenburg.

Furthermore, I would like to thank all the interviewees, both from Germany and from the water board Hunze & Aa's. All the teachers that have educated and inspired me along the way deserve a thank you as well.

Additionally, my friends and family should be thanked as well, with a specific mention to my girlfriend Maartje. Thanks for the distraction, for listening to my complaints along the way and for the support that you all gave me.

Finally, all who are not explicitly mentioned here above but who did contribute to the origination of this report: thank you!

Rob Reintsema

Summary

This report deals with the development of the Dutch water board Hunze & Aa's. The Dollard dike that is located in the water board its field of activity has to be strengthened, and the approach that is chosen for this project indicates a shift from a technical towards a communicative rationality. Instead of a technical solution in which the dike will be covered by asphalt, a more communicative solution has been preferred in which the dike remains green by using an integrated and participative approach. By adopting notions from discourse theory, framing theory and planning theory, it was possible to analyze the influence of this project to the water board as an organization. That is because the hypothesis states that the shift in the project instigates a similar shift for the water board as a whole. This report shows that the water board is indeed experiencing a transition that is similar as the so-called transition in Dutch water management, in which a technocratic style of water management is being replaced by an integral and participatory style. The relationship between these two transitions is therefore investigated, in which the role of individuals is put at the centre. By creating a historical overview, it became clear what has influenced the water board to end up in its current state, and what is influencing the water board towards further development. The results show that the water board already has the notions of integration and participation high upon their agenda and that the organization is developing in the right direction.

Keywords: Discourse theory, framing theory, water management, organizational development, integration, participation, water board Hunze & Aa's.

List of abbreviations

CR	:	communicative rationality
ICZM	:	integrated coastal zone management
nHWBP	:	nieuw Hoogwaterbeschermingsprogramma (new High Water Protection Program)
MER	:	milieueffectrapportage (environmental impact assessment)
SMO	:	social movement organization
TR	:	technical rationality
WUR	:	Wageningen University and Research Centre

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1. Introduction

The Netherlands is a densely populated country, while two-thirds of its surface is vulnerable for flooding (Haasnoot et al., 2013). For ages dikes are therefore protecting the Netherlands against the always existing threat of the water, which can inundate land both from the sea as from the rivers. Often with success, but occasionally without and the consequences can then be catastrophic. The great flood in 1953 in Zeeland is the most notable example, which took over 1.800 lives (Bijker, 2007; Jonkman, Kok & Vrijling, 2008). Floods of such dimensions have not occurred in the Netherlands since then, but due to climate change similar scenarios are threatening. Sea level rise and an increase of precipitation in wet winter months are consequences of climate change, and this means that new assignments arise to resist the threat of the water.

The water boards in the Netherlands are, next to quantitative and qualitative water management, also responsible for the protection against flooding (Unie van Waterschappen, n.d.). For the water board Hunze & Aa's, located in the north-west of the Netherlands and along the border with Germany, this means that they are, among other things, responsible for the water safety of the Dollard region - see figure 1 on the next page. The Dollard lies on the borderline of the Netherlands and Germany, and this results in the fact that the primary dike along the Dollard as a whole is a little dissimilar, both in physical and organizational terms.



Figure 1 – Map of the Dutch and West-German Wadden Sea area. The stars indicate the Dollard (Google Maps, 2012). Scale 1 : 2.000.000 and 1 : 500.000.

Large parts of the dike along the Dutch Dollard area have been disapproved though and the water board is therefore responsible for the strengthening of this dike, so that it will meet the needs of the future standards. Next to the possibility to strengthen the dike on the traditional way, Hunze & Aa's has chosen to investigate the possibility of applying a more innovative and sustainable dike concept. Multiple selection procedures have taken place and this resulted in the so-called *German dike* being the preferred alternative, a design that has been applied along the German part of the Dollard for decades now. The water board defines this German dike as a dike with a complete grass covering and a gentle slope (approximately 1:7) that can shade off into one of the salt marshes that exist in the Dollard.

This thesis touches upon the research on the German dike and its possibilities and implications for the Dutch Dollard area, but more important, it also focuses on the process of approaching issues that is taking place within the water board Hunze & Aa's. The traditional way of strengthening dikes has in this particular case been replaced by the desire for an innovative and sustainable dike. Furthermore, rather than pushing the desired improvement through in a hierarchical way, the water board adopted a more communicative and participative approach in which the different stakeholders and other affected parties have a say as well. This different approach could indicate a change of the collective action frame of the water board. Benford & Snow (2000, p.614) consider a collective action frame to be an "action-oriented set of beliefs and meanings" that inspires and legitimates "the activities and campaigns" of an organization. To put it more simply, the collective action frame of Hunze & Aa's accommodates the way in which the water board as a whole thinks about issues that are being faced and how actions are produced out of this. On a level higher than that of the water board, discourses exist that can inspire collective action frames and with which

collective action frames can be identified. Discourses are particular ways of talking and thinking about the world (Hajer, 1995), and they can serve for instance as an inspiration for collective action frames. Hajer (2005) elaborates this by stating that a discourse can refer to a particular tradition in dealing with problems, and in this case this can refer to the tradition in dealing with coastal protection issues. When taking the national level as an example, different discourses exist that each have their own way of dealing with coastal problems. If the water board, which acts on a regional level, deals with their issues in a way that coincides with one of these discourses, the collective action frame of the water board can be identified with this particular discourse. The apparent different approach that is used within the Dollard dike project can thus be an indication of a shift in the way the water board thinks about dealing with coastal protection and subsequently acts based on these thoughts.

The collective action frame of Hunze & Aa's can be influenced by many aspects diverging from the micro level (such as technological innovations) to the macro level (such as political culture) (Rotmans et al., 2001). An important one of such influences for the water board is the dominant water management regime in the Netherlands. A regime in this context refers to dominant practices, rules and shared assumptions (Rotmans et al., 2001). With reference to the previous, a regime can be considered as the dominant or hegemonic discourse in Dutch water management. Over the last 30 to 40 years the Dutch water management regime has changed from a technocratic scientific style towards an integral and participatory style (Van der Brugge et al., 2005). For this change to actually become a successful transition though, Van der Brugge et al. (2005) state that several impediments need to be overcome, and the most important one of these barriers is the "old-fashioned organizational structure of the regional water boards" (p.171). Despite the fact that Van der Brugge explained in 2009 that the Dutch water sector is operating less autonomously and is interacting more with other policy fields, there is however no clear indication in the scientific literature that the statement of Van der Brugge et al. from 2005 is not valid anymore. In other words, it seems that the collective action frames that exist within the Dutch water boards do not yet align with the changed regime. The Dollard dike project is an indication though that the new regime is descending to the level of the water board. It is unclear however what drives these changes in the approach of Hunze & Aa's: does change come from internal influences (for instance caused by changed individual frames) or from the external influences (for instance caused by the new regime)? For answering this question a discourse perspective is a perfect fit, as discourse theorists aim to identify what has influenced the way a problem is defined (Buizer & Van Herzele, 2012). Additionally, a framing perspective is adopted to analyze how and why the approach in the particular case study was chosen, and how this shift can possibly be diffused within the water board. Goffman addresses the concept of framing for "the way in which participants understand the activity they are engaged in" (1974/1986 - cited in Van de Sande & Greeno, 2012, p.2). A frame is thus the way in which a certain individual strategically makes sense of events and produces this interpretation into actions. When such a frame is shared by several persons or is shared in an organization such as the water board, a collective action frame is the result. In that sense, the Dollard dike project is used as a case to analyze whether the collective action frame of Hunze & Aa's is changing, what initiated this possible change, and how this change will affect the activities of the water board.

1.1 Problem definition

The 'Waterwet' (Dutch Water Law) prescribes that all primary levees should be tested every six years. The test assesses whether a primary levee meets the needs that are documented in the Water Law or not. The most recent testing round, which took place between 2006 and 2011, made clear that large parts of the dike along the Dollard do not meet the standards, as shown in figure 2. The failure mechanisms responsible for the disapprovals vary per part of the dike, but those that apply are inward macro instability, instability of the grass covering, micro instability and insufficient dike height - for an explanation of all dike failure mechanisms see for example Ministerie van V&W (2007, p.104). This does however not mean that the dikes are not providing enough safety at this moment. The disapproved parts have been rejected compared to future standards, in which the expected sea level rise and other consequences of climate change have been included. As part of the 'nieuw Hoogwaterbeschermingsprogramma' (new High Water Protection Program, nHWBP) the disapproved primary levees will have to be strengthened (Rijksoverheid, n.d. a). Although the actual reinforcements do not have to take place until 2020, explorations are already taking place on how to deal with this challenge. The water board Hunze & Aa's is responsible for reinforcing the dike along the Dollard, and in addition to the traditional strengthening procedures - meaning that the wave impact zone of the dike needs to be covered with asphalt or rocks - they chose for investigating the feasibility of a green and sustainable concept. As mentioned in the introduction, the German dike fits in this picture and has subsequently been chosen as the preferred alternative for the environmental impact assessment (MER). This dike is characterized by its complete grass covering and its gentle slope (approximately 1:7), which can shade off into one of the salt marshes that exist in the Dollard. To create this dike, the possibility to obtain clay through the usage of the 'mud capturing capacity' of salt marshes is being explored. Applying this dike would, next to these physical changes, also imply changes in the process towards the dike, since the salt marshes are not in ownership of the water board. Some of the space occupied by the salt marshes could be necessary to apply the gentle slope of the dike, which means that more communication is required throughout the process, both with the land owners and other stakeholders. Furthermore, the salt marshes in the Dollard are part of the Natura 2000 network, hence cooperation with nature organizations is a requisite. It is relevant to state finally that the southern part of the Dollard dike is the focus of the water board. The intention with the western part of the dike is not yet clear, although an overtopping resistant dike has been mentioned as a possible solution.



Figure 2 - Map of the levees that are approved (green) and disapproved (red) (Inspectie V&W, 2011). Scale approximately 1 : 1.000.000.

Applying this dike would, next to these physical changes, also imply changes in the process towards the dike, since the salt marshes are not in ownership of the water board. Some of the space occupied by the salt marshes could be necessary to apply the gentle slope of the dike, which means that more communication is required throughout the process, both with the land owners and other stakeholders. Furthermore, the salt marshes in the Dollard are part of the Natura 2000 network, hence cooperation with nature organizations is a requisite. It is relevant to state finally that the southern part of the Dollard dike is the focus of the water board. The intention with the western part of the dike is not yet clear, although an overtopping resistant dike has been mentioned as a possible solution.

1.2 Research objective

When looking at the two options for improving the Dollard dike - traditional strengthening and the German dike -, they can be considered as two extremes, aiming to

solve the same main problem. The former fits in the technocratic line of thought, in which hierarchy and single fixed targets rule, and the latter suits in a more communicative and public oriented approach, where consensus and broad objectives are keywords (De Roo & Voogd, 2007). By emphasizing that the German dike is the preferred alternative, with in mind the assumed technocratic identity of the water board, a shift is noticeable from the technocratic discourse towards the communicative discourse. The shift in this project could represent a shift in thinking and acting for the water board as an organization, and it is therefore the goal of this thesis to

find out to what extent this shift is taking place, what exactly initiated this shift, and what this means for the water board.

1.3 Research questions

To achieve the objectives that are mentioned above, the following research questions have been used:

Main research question:

To what extent does the Dollard dike project represent a change of the collective action frame of the water board, why is this change happening and what does this entail?

Sub questions:

1. What does the collective action frame of the water board consist of?
2. To what extent is the approach in the Dollard dike project different from this frame?
3. Why has been chosen for the specific approach in the Dollard dike project?
4. To what degree is the approach in the Dollard dike project noticeable in other projects as well?
5. How does the approach in this project relate to theories on water management?
6. How is the water board guiding the shift of its collective action frame?

1.4 Thesis outline

As became clear in the previous parts, the subject of this report is the collective action frame of the water board. In order to adequately analyze this frame, the second chapter discusses the theoretical framework that this research builds upon. First the theoretical notions of discourse and framing theory are explained, already with their connection to the water board. Subsequently, this is extended by including notions from planning theory.

The third chapter deals with the methodology. It explains how the discussed theories on discourses, framing and planning will be translated to practice. Also, this chapter discusses the role of the Dollard dike project in the analysis of the water board its collective action frame. After that, the main methods that were used to gather all the required data are described.

In chapter four the focus is on water management on the macro and the micro. Based on scientific literature, discourses in water management in general will be discussed first, followed by an explanation on sustainability discourses and discourses in coastal protection. The second part of this chapter deals with the empirical research that has been conducted. A chronological description explains the development of the water board its collective action frame, in which the Dollard dike project is discussed as one of the events on the

development path. The last part of this chapter combines the findings from water management on the macro and the micro into a graph, in which an overview of events is given that has influenced and is influencing the collective action frame of the water board.

Finally, the last chapter concerns the discussion and the conclusion. The first part links the empirical findings with the research questions, in order to answer the main research question. Based on these results, the discussion deals with the analysis of the collective action frame of the water board, and explains the synergy between theory and practice that this report provides. After that the recommendations for the water board are listed, followed by suggestions for further research. The reflection is dealt with subsequently, in which the theoretical framework, the methodology and the research results are reflected. The final part of this chapter is the conclusion, in which a the report is shortly reviewed.

Figure 3 gives an overview of the structure that has been used for this research.

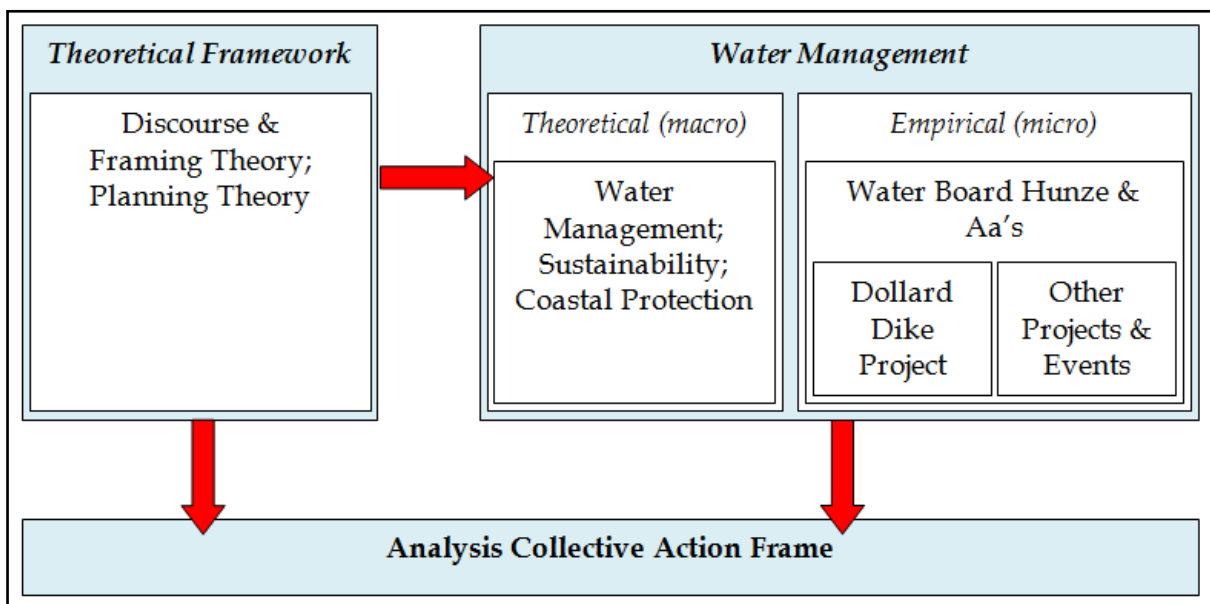


Figure 3 – Overview of the research structure.



2. Theoretical background

This theoretical chapter introduces several theories that are of relevance for analyzing the possibly changing collective action frame of the water board. At first, theories on discourse and framing are discussed as they give insights in the way in which the thinking and acting of organizations can be analyzed, influenced and changed. With regard to these two notions, the work of Van den Brink (2009) served as a major inspiration. She created a theoretical framework that connects discourse and framing theory, one that suits the subject of this report very well. For that reason many references to Van den Brink are used. However, the concept of Van den Brink is not transferred on a 1:1 scale to this report, rather it is modified by translating objects of discourse analysis to the analysis of collective action frames. This serves as the basis for the analysis of the water board, which is subsequently extended by including notions from planning theory. Planning theory is namely of relevance as it deals, in contrast to discourse and framing theory, specifically with the activities of organizations within the field of spatial planning. Applying the theoretical notions from discourse, framing and planning theory to water management could have extended this theoretical framework, however it is placed in the proximity of the empirical results in chapter 4. The reasons for this positioning and its application are explained in the methodology.



2.1 Discourse & framing theory

2.1.1 Discourses

Discourse analysis fits in the social constructionist tradition, assuming that multiple socially constructed realities exist rather than one single, objective reality (Hajer & Versteeg, 2005; Jorgensen & Philips, 2002). A social constructionist perspective adopts a critical attitude towards truth and highlights the importance of communication for exchanging knowledge (Hajer & Versteeg, 2005). Following these social constructionist characteristics, discourse analysis can be considered as the study of language in use (Wetherall et al., 2001b – cited in Van den Brink, 2009). Language is in this sense therefore not seen as merely reflecting the reality out there, but rather as a means to constitute reality. Reality is thus socially constructed and results into the existence of multiple realities, each with its own meanings and perceptions. When such perceptions are shared by several persons or organizations, a discourse emerges (Hugé et al., 2013). A discourse can then according to Dryzek (2005 – cited in Hugé et al., 2013, p.188) be regarded as “a shared, structured way of apprehending the world”. It is important to state though that within a discourse, a subject or an event has a particular meaning that is shared by its followers. When interaction between discourses takes place however, a similar subject or event can have different meanings. The false assumption of mutual understanding arises in such cases, referring to the fact that a particular discourse assumes that other discourses have identical meanings of something (Hajer, 2005).

Jorgensen & Philips (2002) state that there is a plurality of definitions for discourse available, causing vagueness and dissensus about what discourses really are. To create more clarity about this diversity, Torfing (2005) lists three different generations of discourse. The first generation focuses on the use of language, both in talk and text, and its relation with its context. It touches upon the meanings that are hidden in speech or writing and through this it tries to identify the particular perception of reality. The second generation, in which Foucault is venerable, extends the definition of discourse by including social practices and phenomena. The third generation expands the concept of discourse even further by making it cover all social phenomena, both discursive and non-discursive practices and elements.

In her research about Rijkswaterstaat, the Dutch ministerial agency that deals with road and water infrastructure, water protection, and water quality and quantity, Van den Brink (2009) adopts the third tradition of discourse. The aim of Rijkswaterstaat was to abandon the technocratic discourse and shift towards a public-oriented organization in Dutch water management. This shift corresponds with the assumed shift of the water board Hunze & Aa's that this report deals with, namely the shift away from the assumed identification with the technocratic discourse and towards identification with a more integrated and participative discourse. The two researches differ though, since Van den Brink uses the desire of Rijkswaterstaat to leave the technocratic discourse as a starting point, whereas this report takes a potential indication for such a shift as its departure area. Following Van den Brink her footsteps, this report adopts a more elaborate understanding of discourse than just language used in speech or writings. Next to the communication aspects, discourse is here considered to include practices in which specific ways of looking at things are embedded as well (Hajer, 1995 – cited in Buizer & Van Herzele, 2012). The frequently cited definition of discourse by Hajer, who defines a discourse as “a specific ensemble of ideas, concepts, and categorizations that are produced, reproduced, and transformed in a particular set of practices and through which meaning is given to physical and social realities” expresses this very well (Hajer, 1995, p.44). A discourse then enables certain ways of thinking and acting,

while at the same time it makes other ways of thinking and acting impossible (Philips et al., 2004).

In line with the third discourse tradition, Van den Brink (2009) takes Laclau & Mouffe's discourse theory as inspiration. Laclau & Mouffe's discourse theory rests on post-structuralism, assuming that meaning is derived from a socially constructed world and can never be permanently fixed, due to the fundamental instability of language (Jorgensen & Philips, 2002). This in contrast to a structuralist perspective, that draws on the idea that there are closed economic, social and linguistic structures that shape society, thoughts and actions (Allmendinger, 2009). Jorgensen & Philips (2002) further state that such discourses are always open entities, continuously transforming itself through interaction with other discourses, while simultaneously struggling to achieve hegemony over another. The transformability of discourses can be more thoroughly explained by referring to Philips et al. (2004). They state that within a discourse, a certain amount of space exists in which agents can act selfishly towards discursive change so that own interests and goals are privileged (Mumby & Clair, 1997 - cited in Philips et al., 2004). Selfishness can easily be interpreted as negative, but this is not an indisputable fact. Dissatisfaction with the status quo for instance could motivate an agent to behave self-interested while this can turn out to be positive for the discourse as a whole, since its disseminators can be stuck in the tradition of the existing discourse, hence not seeing its shortcomings. This aspect of agency creates an opportunity to bring the concept of framing theory to the table, which will be elaborated later on in this paragraph. Laclau & Mouffe (1985 - cited in Van den Brink, 2009) further note that there are no boundaries between discourse and practice, hence their discourse theory includes all social phenomena and practices. By adopting Laclau & Mouffe's discourse theory it is possible to analyze whether the changed approach of Hunze & Aa's fits within the existing discourse with which the water board can identify itself or not.

2.1.2 Destabilization of discourses

Because of the changeable nature of discourses, it is both difficult and important to determine what a particular discourse houses and what not. Van den Brink (2009) underlines this by mentioning that the political struggle over what and who the hegemonic discourse includes and excludes is central in the discourse theory of Laclau & Mouffe. This is of relevance for the analysis of the water board: does the assumed technocratic discourse accommodate the integrated and participative approach, or can this approach be identified with another or changed discourse? For this matter, the concept of dislocation is meaningful. Torfing defines dislocation as the "destabilization of a discourse that results from the emergence of events which cannot be domesticated, symbolized or integrated within the discourse in question" (Torfing, 1999 - cited in Van den Brink, 2009, p.30). In his more recent work, Torfing (2005) clarifies this by stating that most discourses have flexible capacities and can integrate many new events, but nonetheless they are limited in doing so. When a particular event cannot be domesticated, the hegemonic discourse will be disrupted and this creates opportunities for hegemonic and political struggles to be included in a new hegemonic discourse (Torfing, 2005). Torfing (2005) offers assistance for identifying the moment of dislocation, by stating that it occurs when a structural crisis can be observed in which floating signifiers proliferate. This means that aspects of another discourse increasingly arise and that at some point this creates a crisis concerning the reliability of the hegemonic discourse. When in a certain situation such dislocation is observed, it can be concluded that the hegemonic discourse does not house the particular event. Subsequently, if disruption of the hegemonic discourse is a fact, what developments can take place then? Concerning this question, Van den Brink (2009) divides the concept of dislocation into

destabilization, domestication and dislocation. Destabilization refers to a serious disruption of a discourse due to an event that cannot directly be integrated within it. When a particular discourse is destabilized, it can develop in two directions. The first scenario is that of domestication, in which the destabilized discourse restabilizes again and continuously prevails. Elements and practices of the destabilizing systems of meaning and events are then incorporated, symbolized or integrated into the particular discourse. The second scenario is that of dislocation, in which the destabilized discourse fails to domesticate and is being replaced by a new discourse.

If a particular event indeed characterizes a changing discourse, the two-step procedure created by Hajer (2005) contains a guideline for assessing when the new discourse becomes dominant. Hajer's procedure can help to judge how a destabilized discourse develops into domestication or dislocation. In other words, whether a destabilized discourse is actually changed or restabilized. This procedure concerns discourse structuration and discourse institutionalization, and when both criteria are fulfilled a particular discourse can be considered dominant. Discourse structuration happens when the discourse starts dominating the way the water board conceptualizes the world. Discourse institutionalization occurs when the discourse solidifies in particular institutional arrangements, such as policy guidelines to stimulate stakeholder participation. Van den Brink (2009) elaborates on this by stating that the aim is to reconcile the new elements and practices with those of the dominant discourse. When it turns out to be impossible for the new and existing elements and practices to reconcile through structuration and institutionalization, the existing discourse is dislocated and replaced by a new one. An example to clarify this could be that an existing discourse is based on expert knowledge and therefore not requires participation, while a new series of events is explicitly based on participation. These two discourse characteristics can be considered as opposites and therefore reconciliation between the two would be very difficult, if not impossible. As soon as the discourse that is based on participation becomes dominant through processes of structuration and institutionalization, the current discourse can be regarded as dislocated and replaced by the new, participative one. This specific example is not chosen for no reason, since it could be that this scenario will take place within the water board. Regardless of whether domestication or dislocation takes place, the pathway towards one of these two scenarios can be analyzed as well. This emerges another relevant question, namely "how to study the way in which destabilized discourses are actually stabilized or changed?" (Van den Brink, 2009, p. 31). Following Van den Brink (2009) again, framing theory can serve as a guide for answering this question.

2.1.3 Framing

Whereas a discourse theoretical perspective regards individual or collective behavior as a product of context, a framing perspective considers behavior to be a product of intent (Van den Brink, 2009). Although Van den Brink (2009) underlines that these perspectives fundamentally differ in the way they constitute behavior, she bridges them by stating that actors frame on the basis of cognition, yet their cognition is structured by discourse. Before going into detail on the way in which discourse and framing theory can supplement each other in analyzing the water board, it is relevant to discuss the concept of framing theory itself. Following Goffman (1974), framing refers to the question 'what is it that's going on here?'. He defines frames as "schemata of interpretation" by which individuals can "locate, perceive, identify, and label" different occurrences (Goffman, 1974, p.21). Snow et al. (1986) elaborate on this by stating that when rendering events or occurrences meaningful, frames organize experiences and guide action, whether individual or collective. Similar to discourses, there is a plurality of frames available (Van Gorp, 2007 - cited in Van den Brink,

2009). According to Weick though, a common characteristic of frames can be found in its explanation as a sense-making device (Weick, 1995 – cited in Van den Brink, 2009). Van den Brink (2009) explains this further by mentioning that framing refers to the different ways in which people strategically make sense of reality and how meaning is added to a situation. In this process of meaning-making particular aspects of a perceived reality are accentuated, while other aspects are being suppressed (Van den Brink, 2009). These accentuation and suppression processes are then guided by a frame that supports an individual's respective position, based on political interests for instance (Fiss & Hirsch, 2005). It is important to note though that framing that is not synonymous with sense-making. Weick (1995 – cited in Termeer & Van den Brink, 2011) considers framing to be one of the four elements in the whole process of sense-making, next to noticing, manipulating and interpretation. Fiss & Hirsch (2005) further underline the difference between the two notions by stating that framing stresses the “external, strategic process of creating specific meaning in line with political interests”, while sense-making emphasizes the “internal, self-conscious process of developing a coherent account of what is going on” (p.31).

2.1.4 The relationship between discourses and frames

A frame is thus the way in which an individual, or a group of individuals, strategically makes sense of a particular event that is taking place and subsequently acts in response of this interpretation. With reference to the subject of this report, each actor from the water board interprets the Dollard dike issue in a way that is guided by their frame. Via this frame, associated actions are produced that can affect the way the water board as a whole treats the issue. It is therefore possible that a frame aligns with the hegemonic discourse with which the water board identifies itself, but it is just as well possible that a frame conflicts with this discourse. This creates an opportunity to describe the relationship between discourses and frames. As mentioned before, discourses structure individual and collective frames, which subsequently produce actions. Following a framing perspective, each action is guided by an individual or collective frame, yet this frame is influenced by particular discourses. Frames can therefore be considered as individual or collective action-oriented mechanisms, while discourses can be regarded as shared, passive and influential mechanisms. Taking the frame-discourse relationship one step further, frames can also influence discourses. As stated earlier, there is a certain amount of space within a discourse in which agents can act selfishly towards discursive change. A frame dissimilar with the hegemonic discourse can thus also influence this discourse and push it towards change. In such a situation, a particular frame influences a particular discourse so that it destabilizes and subsequently domesticates or dislocates, after which the domesticated or dislocated discourse influences different frames in its turn. It is relevant to state though that different discourses give different meanings to a subject. Jorgensen & Philips (2002) conclude from that that there are different subject positions with which individuals can identify themselves, and they introduce the term identity for the identification with a particular subject position. It is helpful to mention that an individual can identify itself with subject positions from different discourses, in other words that an individual is influenced by several discourses at the same time. When a certain discourse is destabilized for example, it is difficult for individuals to identify themselves with this instable and change-sensitive discourse. Van den Brink (2009) underlines this by stating that discourses cannot succeed in constituting identity when they are destabilized. Due to the failure to identify with a subject position of a discourse, individual or collective frames have the opportunity to guide the dislocated discourse towards either restabilization or dislocation. This guidance can take place for instance by taking another corresponding discourse as a model or by creating a new discourse based on an individual frame. With

reference to the question posed earlier, a framing perspective is thus useful to analyze the way in which destabilized discourses are actually stabilized or changed.

2.1.5 Frame conflicts & collective action frames

According to Termeer & Van den Brink (2011), frame-critical policy analysis and collective action framing are especially interesting for analyzing organizational change. The former can be used to reflect on intractable policy controversies, which are seen as value or frame conflicts about problem setting or possible solutions for instance (Van den Brink, 2009). Schön & Rein (1994 – cited in Van den Brink, 2009, p.37) advocate that these conflicts can be overcome “if the disputants are willing to reflect on their tacit frames (frame awareness and frame reflection), reconstruct them (frame restructuring through story telling), engage in a dialogue with each other about the content of their frames, and finally even create a new frame which ‘absorbs’ the conflicting frames (reframing)”. This can for instance be useful when internal, organizational conflicts need to fade away for properly approaching a project. Conflicting frames can hinder an effective approach and therefore the steps mentioned are necessary to create a consistent frame that is supported by those involved. These steps imply that either several frames have to make compromises or that one frame achieves hegemony over others. Reconstruction can in these steps be considered as adjusting a frame, while reframing refers to the creation of a new frame.

In addition to frame-critical policy analysis, a second perspective useful for analyzing organizational change is collective action framing. This perspective concerns collective actors – social movement organizations (SMO) are often used as a reference – which are aiming to mobilize potential adherents, to create support, and to demobilize antagonists (Benford & Snow, 2000). Collective action frames are in this process “action-oriented sets of beliefs and meanings that inspire and legitimate the activities and campaigns of a social movement organization” (Benford & Snow, 2000, p.614). Gamson (1992 – cited in Van den Brink, 2009) extends this definition by stating collective action frames are rather outcomes of negotiating shared meaning than an accumulation of individual attitudes and perceptions. In a situation where collective actors indeed aim to create support for their understanding, when they are trying to achieve a specific purpose (Benford & Snow, 2000), framing processes can be used strategically to achieve this. Snow (1986) introduces the term frame alignment for the process of linking (aligning) frames of others with the frame of an SMO so that the ideology, goals and activities of the SMO are getting distributed. When an individual or collective frame tries to diffuse its frame by finding or creating companions to ultimately influence the hegemonic discourse for example, frame alignment is an important notion. Snow (1986) emphasizes that frame alignment is a crucial aspect for gaining participation for a collective action frame. When collective action frames are being viewed in the context of the water board, they provide problem diagnosis and prognosis and actions to solve the problem (Van den Brink, 2009). The collective action frame of the water board thus accommodates the way in which the water board thinks about issues that are being faced and how actions are produced out of this. This frame is influenced by individual frames from below, but by different discourses from above as well. If the water board indeed wants to identify itself with another, more participative, discourse their collective action frame needs to change. Benford & Snow (2000) further explain the notion of collective action frames by describing that they are generated by two interactive, discursive processes, them being frame articulation and frame amplification or punctuation. Frame articulation concerns connecting and aligning events and experiences so that they hang together in a concordant and appealing way. Frame amplification or punctuation refers to the activity in which certain

issues, events or beliefs are being highlighted as being more prominent than others. The whole process of these two sub-processes is referred to as frame generation.

2.1.6 Collective action frames as discourses

To compare the approach in the Dollard dike project with the usual thinking and acting of the water board as a whole, their collective action frame needs to be analyzed. For actually analyzing this collective action frame, the theoretical notions concerning discourse theory provide a very useful basis. When considering discourses and collective action frames in the way as they are explained in the previous paragraphs, they show many similarities that are useful for this research. The Dollard dike project can in that sense be an indication for a changing collective action frame of the water board as a whole. A discourse perspective can then at first be used to analyze what this collective action frame actually accommodates and whether the Dollard dike approach fits into this frame or not. Since the current collective action frames of Dutch water boards can according to Van der Brugge et al. (2005) not yet be identified with the integral and participative discourse, it is assumed to be a more technocratic collective action frame. For this matter it is important to state that, similar as discourses, the collective action frame of the water board enables certain ways of thinking and acting, while at the same time it makes other ways of thinking and acting impossible (Philips et al., 2004). It is then the question whether the Dollard dike project, considered here as a new event, causes a disruption of the current collective action frame. If it turns out that the new approach cannot be housed into the existing collective action frame of Hunze & Aa's, the discussed theory of discourse dislocation can be applied to analyze if the project indeed causes a destabilization. Subsequently, the described theories of framing can be adopted to study how the destabilized collective action frame develops towards restabilization or dislocation, to analyze why a new and different approach has been preferred over the traditional one, and to find out what this shift means for the water board.

The collective action frame of the water board is thus the main subject of this report. As mentioned before, it is assumed that this frame can currently be identified with a more technocratic discourse, but the Dollard dike project can characterize a shift of the collective action frame, which can result in the identification with another, more participative and integral discourse. With regard to discourses in Dutch water management, a transition is taking place from the technocratic discourse to a more integrated and participative discourse. It can therefore be very well possible that the change of the national, hegemonic discourse ultimately influences the way in which the water board thinks and acts. Individual frames can influence discourses which can result in change for instance, but these discourses can influence individual frames as well. A new or changed discourse can therefore transfer its notions towards individual frames, which can subsequently use these altered thoughts to influence a collective action frame. When this influence shows to be successful and has changed a collective action frame, this frame can influence existing discourses and other individual frames in its turn. Thus, all three layers can influence each other, although discourses can reach collective action frames only via individual frames. This is the case because a collective action frame consists out of multiple individual frames, and since a collective cannot be influenced as a whole but only via its constituents, attention should be paid to individuals who can subsequently try to reframe the other members of the collective. This is especially what makes a framing perspective so interesting for this research, since framing and reframing processes play a vital role in changes of a collective action frame. The roles and relationship between the three different layers are for further clarification depicted in figure 4.

To summarize the above, a discourse perspective will be applied first to explore which discourses exist in water management that could have influenced the collective action frame of the water board. After that, it was used to determine what the collective action frame of the water board exactly constitutes of, and whether the approach in the Dollard dike project fits within this frame or not. Second, a framing perspective will be adopted to analyze both the reasons for this altered approach and the way in which this altered approach influences the collective action frame of the water board. Subsequently, when it indeed turns out that the Dollard dike project has destabilized the collective action frame, a framing perspective with its emphatic focus on agency and strategy will be used to analyze the way in which this frame actually restabilizes or dislocates.

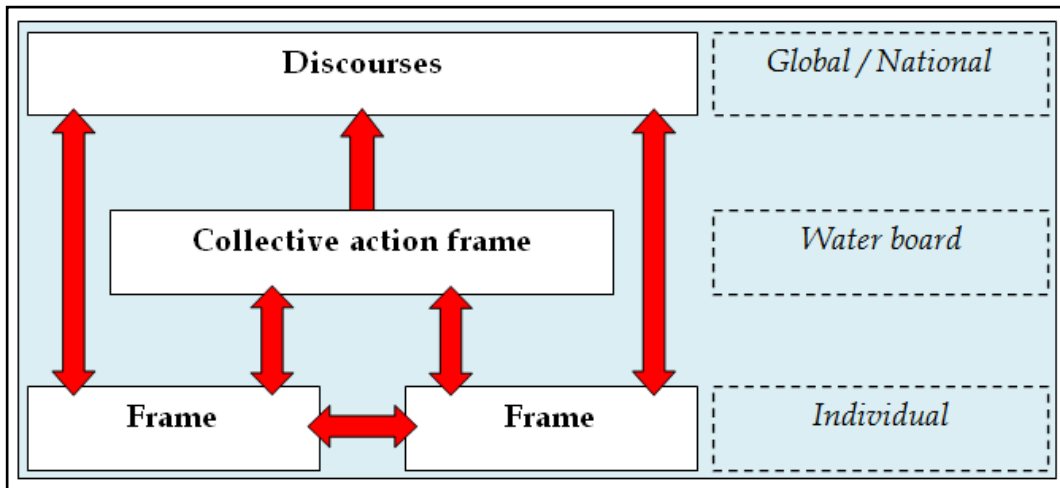


Figure 4 – *The roles of and relationships between global/national discourses, the collective action frame of the water board, and the individual frames in the analysis of the water board.*

2.2 Planning theory

In addition to the analytical framework described here before, an explanation will here be given of two extreme rationalities out of which several planning approaches have originated. As discussed in the previous paragraphs, discourses and frames both assume the existence of multiple realities. With regard to spatial planning, these multiple realities can be made concrete by referring to the existence of multiple planning approaches that are used to guide actions. Planners in the field of water management in general and coastal protection in particular draw upon these approaches, hence the need to clarify them in this paragraph. The two extreme approaches that will be discussed are based on two opposing rationalities, which each consider reality to be different. In that sense, the existing approaches can be considered as different discourses, by which the collective action frame of the water board can be influenced and/or with which it can be identified. Despite the fact that the majority of planning approaches is located between the two extremes, it is very helpful to focus specifically on these extremes, as it will clarify the whole continuum of planning approaches.

2.2.1 Governance

A term that is of relevance for all approaches is 'governance'. Governance is by many authors equated with the governing or steering of a policy domain that embodies a public interest (Arnouts et al., 2012). One of such policy domains is spatial planning. Spatial

planning, of which coastal protection is an aspect, concerns policy-making and the systematic preparation of activities, aimed to intervene in the physical environment (De Roo & Voogd, 2007). In the field of spatial planning there exists a plurality of approaches to successfully intervene in the spatial environment, but not all are equally dominant. One aspect in which the approaches often differ is the responsibility in governance processes. Traditionally, the governance of spatial planning is the responsibility of governmental actors, but non-governmental actors and citizens are increasingly being included in contemporary processes of governance (Arnouts et al., 2012). Such a shift away from the exclusive role of governments is often characterized by the term 'governance' as well (Voogd & Woltjer, 2007). In this report however, the term 'governance' will not be regarded as the opposite of government, but it will rather be used to refer to the process of governing. Within this process of governing, a certain planning approach, or a combination of approaches, is chosen to guide projects towards successful physical interventions. The different planning approaches that exist within spatial planning can be considered as different discourses: each approach has a different ideology that gives understanding to a particular issue and that subsequently guides adherents in solving the issue. When regarding planning approaches as discourses, it is also possible to understand their plurality. As mentioned in the previous paragraph, a discourse can be influenced by individual or collective frames that differ from this discourse in their way of understanding and solving an issue. These varying frames can lead to the adjustment of existing discourses or the creation of new ones, hence the multiplicity of approaches.

For a better understanding of this multiplicity of planning approaches, Martens (2007) describes three ideal models of governance: governance through coordination, governance through competition and governance through argumentation. Coordinative governance is based on an explicit division between the government and society, competitive governance focuses mainly on competition between actors with different interests, and argumentative governance considers a process of argumentation between all involved stakeholders as crucial (Martens, 2007). These three models constitute the so-called governance triangle, and increasingly planning approaches stem from this triangle that integrate elements of all three models (Martens, 2007; De Roo, 2007a). The rationales behind these models are built upon the philosophical movements of modernism on the one hand and post-modernism on the other hand (Allmendinger, 2009). These two schools have each produced a rationality on its own, namely the technical rationality with its modernistic foundations and the communicative rationality with its post-modernistic basis. A technical rational approach can be connected to the coordinative model of governance, and a communicative rational approach can be associated with both the competitive and argumentative model (Zuidema, 2013 forthcoming). De Roo & Voogd (2007) consider these two rational planning approaches as two extremes, and between these opposites several approaches exist that combine aspects of both rationalities.

2.2.2 Technical rationality

A technical rational approach, also known as an instrumental, procedural or functional approach, is based on full control and the presence of certainty (De Roo, 2007b; De Roo, 2010). It follows a realist ontology which believes that human experiences and observations are reflections of a reality that is out there, regardless what humans think or say about that (Zuidema, 2013 forthcoming). It thus places itself in an objective reality in which knowledge is regarded as objective, hence the existence of one, single reality. To actually discover objective knowledge, experts in each policy field are needed to explain the reality that is out there as being true for everyone. Similar as in the natural sciences, this rationality puts the

idea of reductionism central, meaning that through understanding different parts of the total, the total can be understood as well (De Roo & Voogd, 2007). Kramer & De Smit (1991 – cited in De Roo, 2003) further explain this by stating that a technical approach focuses on the elements that constitute the whole, thereby assuming that a direct causal relationship exists between them. De Roo & Voogd (2007) state that the technocratic approach with its blueprints is very much in line with the natural scientific reasoning. It thus considers reality to be linear, and predictability concerning the outcomes originates out of that. This results in a very sectoral approach, which means that each sector that is of relevance for an issue is taken care of on its own. What subsequently stems from that is that each sector has a particular fixed goal that is being aimed for, and that this single goal is not tuned to goals of other sectors. The governance process that takes place then is very much goal-oriented, aimed to achieve a desired situation (De Roo, 2003).

Derived from this technical rationality was the coordinative model of governance that dominated the European planning system the previous half century (De Roo, 2007b). This governance model has a clear top-down structure: the central government, considered as the expert that knows what is good for everybody, has full control and expects lower authorities to perform according to decisions that are made and citizens to act conform these decisions (De Roo, 2007b). Generally this happens through the creation of regulations that are to be respected by all. The coordinative model is thus very hierarchical and has a strong emphasis on routine for applying generalized knowledge to practice. An example of the performance of the coordinative governance model is given by Busscher et al. (2013 forthcoming) concerning air quality. The European Union created air quality policies in 1999 and the Dutch central government adopted the air standards mentioned in these policies. These standards were applied to the whole country to diminish the amount of noise pollution. This single fixed goal was to be executed by all lower authorities in the Netherlands, for instance through mitigating measures. The air quality standards collided with the infrastructure goals of that time though, leading to the fact that many infrastructure projects could not proceed because the standards were not met (Busscher et al., 2013 forthcoming).

2.2.3 Communicative rationality

At least until the 1960s the technical rational approach had complete dominance in planning (De Roo, 2003). After that, criticism increasingly arose, especially with respect to the full availability of knowledge and its objectivity that was assumed. De Roo (2003) criticizes the technical rationality for its over-simplification of reality and states that actual relationships are less clear than assumed in a technical rationality. Healey (1998) continues by mentioning that the social and environmental challenges that emerged made clear that governments could not meet all demands by itself. These challenges possessed degrees of complexity that a technical rationality was not able to solve. When considering the technical rational approach as a discourse, it can be stated that all these criticisms caused the discourse to be destabilized. Via several approaches that put forward the shortcomings of the technical rational approach, the communicative rationality ultimately came to the forefront as the opposite of the technical rationality and as a tool to deal with more complex issues (De Roo & Voogd, 2007).

This communicative rational approach, based on post-modern understandings, denies the presence of full control and therefore accepts uncertainty as part of the governance process. In contrast to the realist ontology with its objective reality, this approach follows a relativist ontology and takes the existence of external influences, such as context and human interaction, as its principle (De Roo, 2003). Instead of objectivity, intersubjectivity is the

keyword. Whereas subjectivity refers to the inclusion of personal opinions in perceiving the reality out there, intersubjectivity takes this one step further by believing that these subjective perceptions are influenced by interaction between subjects as well (De Roo & Voogd, 2007). This means that there is not one, single reality out there, but that every individual creates its own reality based on its own subjectivity and its interaction with other individuals. Additionally, citizens and societal groups are increasingly becoming more outspoken. Because of these multiple realities, expert knowledge increasingly falls short when it does not align with all the different perspectives that are present. Therefore, rather than taking a hierarchical stance in which experts have all the influence, a participative or communicative position is taken in which consensus over goals and objectives should ultimately be achieved (De Roo & Voogd, 2007). No longer are the problem and its corresponding solution in the centre, but the focus is on the definition of the problem and the degree of consensus for this definition (De Roo, 2003). This means a shift from the content as the main principle of a project, towards the process of a project as being most important. For this process to be successful, participation of all relevant actors, such as citizens, market parties or non-governmental organizations, is crucial. Instead of top-down, a bottom-up structure is characteristic for communicative rational processes. The complexity created by future uncertainty and the plurality of individual perspectives can then at least partly be resolved. By entering into a discussion with all actors, place-specific knowledge is used to optimize the outcomes of a project. The result of such a participative process will not be that goals are maximally achieved, but that everybody can agree with the outcomes hence public support is generated. A shift described by De Roo (2007b) as leaving goal maximization and heading towards process optimization. This also means that deregulation is necessary to create more flexibility in guiding the planning process towards optimization (De Roo & Voogd, 2007). It is relevant to state though that the concept of participation is not unambiguous. The ladder of participation, created by Arnstein, can be used to clarify this, as it distinguishes between real participation, symbolic participation and non-participation (Arnstein, 1969 – cited in Woltjer, 2004). In figure 5 on the next page Arnstein her eight steps of citizen involvement are depicted together with the three participation categories.

By inviting all the different actors to the table, each of these actors will pursue a preferred set of goals that probably differs with those of others. In line with process optimization, each of these individual goals will not be completely obtained whereby opportunities arise to develop several goals partially with which everybody agrees. Integration of goals and policy fields is thus an aspect of a communicative rational as well. Obviously, the central government does not have the capacities nor the adequate skills to guide such a participative process for every project in the country. Voogd & Woltjer (2007) state about that, that the principle of subsidiarity is gaining importance. This principle of subsidiarity refers to the idea that issues should be dealt with at the lowest level of competence (Voogd & Woltjer, 2007). To satisfy to this principle, processes of decentralization are taking place that devolve power and authority away from the central government towards local authorities (Zuidema, 2013 forthcoming). Municipalities, rather than the central government, can then engage in a dialogue with all relevant actors for solving local issues. Zuidema (2013 forthcoming) however states that decentralization has disadvantages and risks as well. Consequences of decentralization that he mentions are increased uncertainty regarding the outcomes of projects and increased diversity of ambitions and solutions that is scattered over a nation. Additionally, Zuidema describes that decentralized authorities can be restrained in their willingness or ability to perform their expanded tasks. Concerning the ability he first puts forward the idea of economies of scale, referring to the question whether local authorities have enough time, expertise, routine and finances to adequately function in their new role. With regard to local willingness, Zuidema (2013 forthcoming) describes that each local

authority has priorities of its own, that obviously within the framework of the central state. When these authorities are to guide communicative processes, the emphasis can be put to other aspects than the central authority would prefer. The willingness of local authorities concerning particular aspects can thus differ with that of the national state. The successfulness of decentralization therefore depends on the characteristics of the decentralized authorities.

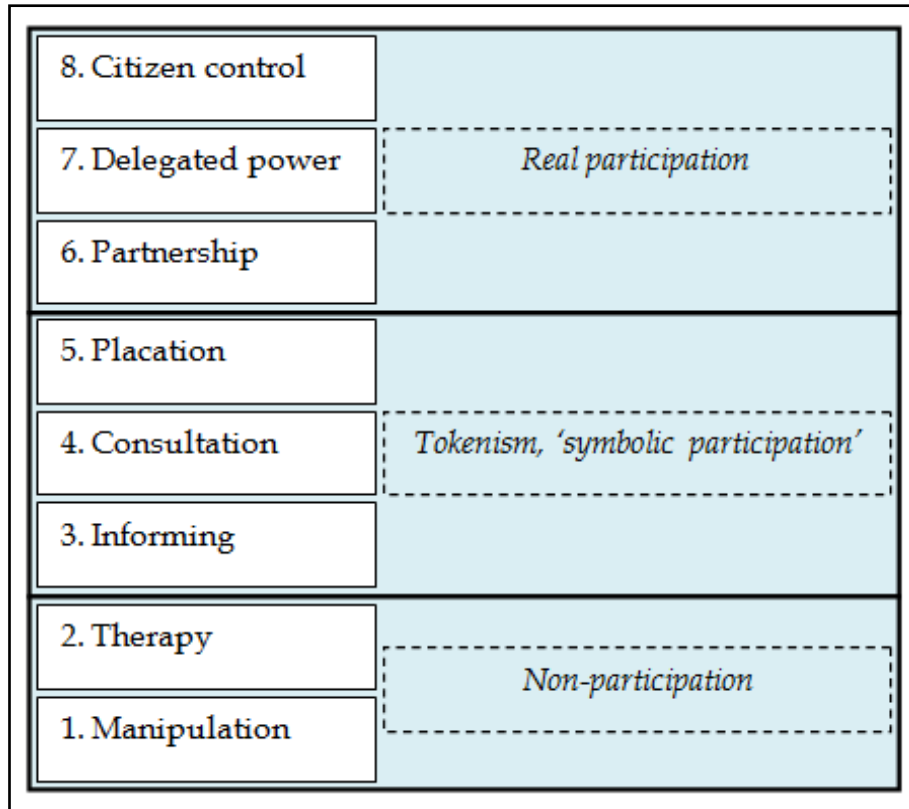


Figure 5 – *The ladder of participation, based on Arnstein (1969 – cited in Woltjer, 2004).*

Following Foucault’s thoughts to “never lose sight of reference to a concrete example” (Foucault, 1969 – cited in Flyvbjerg, 2006a), the communicative rational can be demonstrated with reference to the publication of Busscher et al. (2013 forthcoming) again. When it turned out that many infrastructure projects were killed due to the manifestation of EU air quality standards, a new governance approach was needed to unite the different goals. The National Collaboration Program on Air Quality (NSL) was therefore introduced, a policy that involved the move away from central state control through processes of decentralization. Via governance through argumentation and governance through competition many different actors were included in the planning processes. However, because former policies concerning air quality and infrastructure relied on central government, problems originated out of the decentralized processes. The absence of central control created room for actors to behave opportunistically, air quality had a weak profile which led to other aspects as being considered more important, and different authorities had different priorities which complicated collaborations.

2.2.4 Towards post-contingency

The example above shows that a communicative rational approach is not a panacea either. De Roo (2007c) underlines this by stating that similar as a technical rational approach, the communicative rational approach is rather extreme and should not be considered as the only approach. Woltjer (1997; cited in De Roo & Voogd, 2007) also enumerates several objections for applying a communicative approach to every issue, such as selective participation, expensive and long-lasting processes, and conflicts between self-interests and the common good. This proves once more that the technical and communicative rationality are both extremes on a continuum, and between these two there is a plurality of hybrid governance approaches available. These mixed approaches are of great relevance, since the majority of planning issues is located between the two extremes (De Roo, 2010). To navigate in the plural governance landscape, Zuidema (2013 forthcoming) suggests a post-contingency approach. Post-contingency builds upon contingency theory, in which a planning approach is suggested based on the circumstances encountered (Zuidema, 2013 forthcoming). To classify these circumstances, the degree of complexity needs to be established. Through the eyes of Zuidema, complexity can in this sense be considered as the convergence of uncertainty concerning the future and the perspectives, interpretations and behaviors from actors. When a situation is labeled as very complex, a communicative rational approach would fit, whereas in a simple situation a technical rational approach would suit (Zuidema, 2013 forthcoming). In other words, the shift from simple to very complex issues corresponds with the shift from a technical rationality to a communicative rationality. Contingency theory can therefore be considered as an object-oriented approach, in which the degree of complexity is objectively determined and subsequently an approach corresponding with the degree of complexity is suggested. These thoughts on contingency theory connect very well to the planning arena of De Roo (2003), depicted in figure 5 here on the next page.

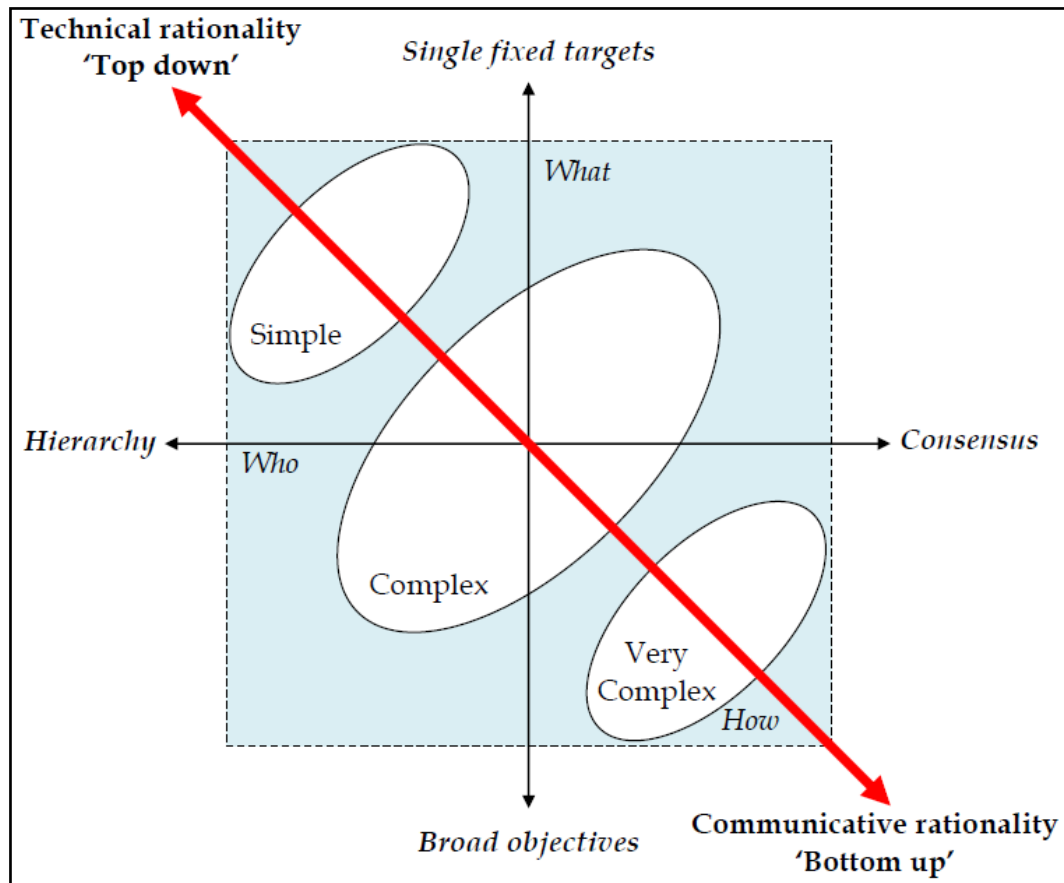


Figure 6 – The planning arena, based on De Roo (2003).

Zuidema his post-contingency approach takes this one step further by including an intersubjective perspective. In the first place this perspective is included in the determination of the degree of complexity, since there are no fully objective standards for this determination. Rather than talking about *the* degree of complexity, in the words of post-contingency one would talk about the *perceived* degree of complexity. Secondly, whereas a contingency approach creates an understanding of the likely consequences that can be expected when a particular governance approach is used, post-contingency regards the way in which a decision-maker responds to the consequences as an intersubjective choice (Zuidema, 2013 forthcoming). Instead of a matter of degree of complexity it is thus a matter of choice. For a better understanding of the presence of choice, the previously mentioned risks and consequences of decentralization are useful. When a particular situation is perceived as very complex, following the theory of contingency one would use a communicative rational approach in which decentralized rather than centralized authorities play a crucial role. However, when it turns out that a decentralized authority, such as a municipality, does not have the ability to perform these tasks, a more technical oriented approach, with the central or regional authority as being responsible, can ultimately be chosen. With reference to the publication of Busscher et al. (2013 forthcoming) for the last time, the matter of choice can be further clarified. Despite the high complexity of air quality, a communicative rational approach with its decentralized perspective did not work out. Firstly there was a lack of control that covered all relevant projects, whereupon a more centrally organized authority was required. Secondly, the scope of individual projects turned out to be too limited to meet air quality standards. This shows that the perceived degree of complexity should not always be connected to its corresponding planning approach. Instead,

those who are responsible should use the perceived degree of complexity as an argument for their choice, together with other arguments such as the ability or willingness of local authorities.

As a summary of the preceding part on planning approaches, there is a clear distinction between an approach based on a technical rationality and an approach based on a communicative rationality. Whereas a technical rational approach is surrounded by words such as sectoral, linearity, certainty, hierarchy, and goal-oriented, a communicative rational approach is encircled by notions such as integration, uncertainty, consensus, decentralization, and process-oriented. During the previous decades a shift is noticeable from the technical towards the communicative in spatial planning, but this does not liberate planning theory from its dynamics though. Both approaches are namely not a panacea: each has its strengths but each has weaknesses as well. The two opposite rationalities are therefore seen as two extremes on a continuum, with in between a plurality of hybrid governance approaches available. Post-contingency theory can serve as a guide for this plural governance landscape by using the perceived degree of complexity as an argument to make a choice regarding the preferred planning approach.

What the different rationalities specifically mean for water management in general and coastal protection in particular will be discussed in chapter 4, however it can already be stated that within the Dollard dike project signs of a shift are noticeable from the technical to the communicative rationality. When the different planning approaches are considered as discourses, they can be seen as possibly influencing the collective action frame of the water board. Whether this is actually taking place is yet to be answered, but by combining the theories of framing and post-contingency it is possible to find out what the arguments of the water board were to choose for the particular approach in the Dollard dike project. With regard to this, a relevant question is whether the water board established a particular degree of complexity and, if so, how they used this degree of complexity: did they use contingency theory by following the degree of complexity to its corresponding planning approach, or did they use a post-contingency perspective by considering the degree of complexity as an argument for a planning approach? If the former is the fact, it is interesting to find out if the water board was aware of their abilities to perform according to a communicative rational. If the latter is the fact, it is interesting to discover what these arguments exactly were and why they ultimately chose for the selected approach. For analyzing the intersubjective choices that underlie the selected approach, the theory of framing will be especially useful since it touches upon the way in which an individual answers the question 'what is it that's going on here?' (Goffman, 1974) and how subsequently is acted according to this answer.



3. Methodology

Building upon the theoretical framework that is discussed in the previous part, this chapter deals with the methodology that was used to create an answer for the main research question. The following sections cover the hypothesis based on the theoretical framework, the role of the Dollard dike project in the analysis of the water board its collective action frame, the methods that were used to obtain both primary and secondary data, and a description of how the empirical findings are discussed in the next chapter.

3.1 Hypothesis

Although not yet discussed with specific reference to water management, the literature on planning theory shows that changes have taken and are taking place that correspond with the choice away from a traditional reinforcement of the Dollard dike towards the choice for the German dike. The choice for the German dike is assumed not to fit in the more technocratic collective action frame of the water board, hence it can cause a collective preference for more integral and participative approaches. Furthermore it is probable that an individual within the water board came up with the integral and participatory approach through the influence of similar preferences on the (inter)national level. Based on these observations and assumptions and on explorative conversations with individuals of the water board, the hypothesis for this thesis report was formulated as follows:



the collective action frame of the water board is indeed changing, and this is influenced by the interplay between changing discourses on the global/national level and individual frames on the local level.

3.2 Theoretical model

As explained in chapter 2, discourse and framing theory are the foundations on which this thesis has been built. These two theoretical notions allowed to analyze the collective action frame from both a discourse perspective, meaning from above the water board, and from a frame perspective, meaning from within the water board. The theories on discourses have been applied to explore which discourses exist in water management that could have influenced the collective action frame of the water board, to determine what this collective action frame exactly constitutes of, and whether the approach in the Dollard dike project fits within this frame or not. In addition to that, framing theories were used to analyze the reasons for the specific approach in the Dollard dike project, the way in which this approach influences the collective action frame, and the way in which the destabilized frame is guided towards domestication or dislocation.

For exploring the existing discourses in water management, attention was only paid to scientific literature on this specific topic. The two extreme rationalities that have been discussed in the planning theory part were used to create an overview of the changes that are taking and have taken place in water management in general and coastal protection in particular. As stated earlier, the theoretical description of water management can be considered as an extension of the theoretical framework. It is placed in the next chapter though as it serves as a proper introduction for the empirical part that follows up. It connects the theory on discourses with the practice of water management, and from there it is bridged towards water management on the regional level. Since changes on the level of discourses were also assumed to influence the collective action frame of the water board, the theory on water management and its empirical dissemination on the level of the water board suit together in the same chapter.

From a framing perspective, the collective action frame and the individual frames were subsequently analyzed. To determine what the collective action frame constitutes of and whether the Dollard dike approach fits within this frame, policy documents were used in the first place. Analysis of these policy documents allowed to find out how the water board preferred and prefers to position itself with regard to issues that are being faced. But since ambitions that are stated in policy documents do not guarantee that practice directly follows these ambitions, several interviews with people from within Hunze & Aa's were conducted as well. Not only did these interviews supplement the description of the frame of the water board, but they also enabled a comparison to be made between the characteristics of the Dollard dike project and those of the collective action frame. To actually make this comparison successful, several project meetings were attended as well, in which the persons involved were observed, and other internal projects were also analyzed. The theories on discourse destabilization, structuration and institutionalization were subsequently transferred to the adopted framing perspective, in order to explain the development of the collective action frame. It is important to state though that the application of these theories involved argumentative and subjective judgments, which can endanger the internal validity of this report. The observation of a structural crisis of the collective action frame as a criteria for destabilization for instance, in which aspects of another discourse increasingly arise, involved an argumentative and subjective evaluation as there were no hard criteria that could be used. But because an argumentation line has been created around the mentioned

theories to support such judgments, the validity of these judgments has not been jeopardized.

With regard to the individual frames, the interviews were relevant as well as they clarified the influence of these individual frames on previous projects, on the Dollard dike project and on the collective action frame. By conducting the interviews, the precise role of individuals in events became clear as well as the way in which other individuals within the water board framed these events. The notions of frame reconstruction, reframing and frame alignment were utilized to discover to what extent the individual frames were influenced or changed by discourses, by events that were faced in the past, or by other frames. This demonstrated how and to what extent previous approaches, and the approach in the Dollard dike project, disseminated within the water board. Also did this illuminate how the destabilized frame of the water board was guided towards domestication or dislocation. In analyzing the pathway towards domestication or dislocation, the moments of structuration and institutionalization were used again as reference points to show which individual or event caused these moments to happen.

3.3 Operationalization

As stated in the main research question and also in the hypothesis, the focus of this research is on the collective action frame of the water board. The approach in the Dollard dike project indicates a shift of this frame, and because of that this project is chosen as a case study to analyze the collective action frame of the water board. Because the Dollard dike case was the trigger for this analysis, actual case selection was not a point of order. According to Mahoney & Goertz (2006) qualitative research can be used to explain outcomes of individual cases, and therefore qualitative data has been collected in order to explain the Dollard dike project with reference to the collective action frame of the water board. The extent to which the collective action frame is similar to the project approach is thus investigated, so that the collective action frame and its possible transformation can be explained. Therefore the case can be considered as explanatory research, with the ambition to generalize knowledge for the water board as a whole. Flyvbjerg (2006b) points out that it is indeed possible to generalize on the basis of an individual case, however for the validity of this report attention is also paid to other projects within the water board. These projects are not discussed as detailed as the Dollard dike project, but they are described so that a clear comparison between the approach in the Dollard dike project and the general way of approaching is possible. In this way valid conclusions that are based on more than just the individual case could be made with regard to the collective action frame. The conclusions could have been more strengthened by including other current projects, so that an even stronger image could have been created regarding the current degree of participation in the water board. However, for reasons of time the Dollard dike project was the only current project that was being looked at.

Mahoney & Goertz (2006) further state that case explanations can be given through the identification of the causal path that the particular case follows. This means that the pathway that led to the approach in the Dollard dike project is to be reconstructed, and this was done through a chronological, descriptive overview of events that have influenced the Dollard dike project and the frame of the water board. In this overview, the events within the water board are also connected to events in water management on the macro, so that the different levels are linked over time. The events are discussed in chronological order from the establishment of Hunze & Aa's in 2000, although flashbacks are included as well for events or periods that lack a clear indication in time or that cannot directly be connected to the

water board. In 2000, namely, three former water boards fused out of which Hunze & Aa's originated, and for both practical reasons as reasons concerning its relevance to the research question, it is chosen not to further explore these three former water boards. Experiences and usual practices from before 2000 were mentioned by the interviewees though, and these are thus described via flashbacks. This cannot directly be connected to the collective action frame of Hunze & Aa's, however they provide a relevant background for the way things used to be done. For directly connecting the empirical findings with the theoretical framework, the historical overview has been ordered along the notions of destabilization, institutionalization and structuration. To further clarify the historical reconstruction, the creation of a timeline was initially intended. During the thesis process this intention was adapted though, because the use of a graph instead of a timeline enabled to connect all events through time to a certain extent of technical or communicative rationality within the collective action frame of the water board. The degree of technical or communicative rationality at a certain moment in time is not to be interpreted as an exact reflection though. It should rather be interpreted as an indication that shows the development of the collective action frame from technical to communicative through time. The graph covers the process from the beginning of Hunze & Aa's in 2000 until now, however the discursive changes within Dutch water management on the macro are included as well. Within the graph, the notions of destabilization, structuration and institutionalization were applied to demonstrate which events directly influenced the collective action frame. By doing so, an image is created in which all events, both on the macro or on the micro, can be reviewed chronologically. This gives a clear overview of the relationships between events, hence it shows how and why the collective action frame developed into its current state.

3.4 Methods

As became clear from the previous parts, interviews were the most important source of information. Policy documents were analyzed as well, but this meant no more than reading the several plans. Additionally participative meetings could have been attended to analyze in person how participation is taking place, but for the economy of time this was left out. A total of eleven interviews has been conducted, of which four were explorative interviews with German experts concerning the concept of the German dike and coastal protection in Lower Saxony (the German federal state that borders on the Dollard), and seven were explanatory with (former) employees of the water board Hunze & Aa's. The interviews in Germany were not directly used for answering the research question, they rather served as an elaborate understanding of the German dike concept. These interviews were used as input for an explorative report within the framework of the 'Deltaprogramma Waddengebied' (Delta Program Wadden Area). This report concerns the feasibility of a green dike along the Dutch Dollard and is yet to be published under the reference of Van Loon-Steensma & Schelfhout (2013). With regard to the interviews within the water board, multiple people throughout the organization as a whole have been questioned so that the conclusions became triangulated. Parfitt (2005) defines triangulation as the combination of different perspectives and sources so that a conclusion becomes more founded. People from different departments have been talked to, so that the total of the empirical findings is reliable to conclude on. By analyzing the policy documents as well, the reliability of the research methods became even more strengthened. Interviews with the policy makers and the writers of the different management plans could have provided extended information, but these interviews did not fit in the timeframe of this thesis. An overview of the interviewed persons can be found in the list of interviewees.

Interviews were chosen as the main research method since they could provide the most extensive description of the pathway towards the Dollard dike project and its influence on the collective action frame of the water board. Interviews with its qualitative results especially served this thesis as they helped to discover and understand choices that were made. This matched the discourse and framing perspective very well because individual frames that produce choices were considered to be of vital importance in researching changes in the collective action frame. To get a clear understanding of such individual frames, interviews proved to be the perfect method. By conducting interviews, it was also possible to ask similar questions in different ways so that issues could be explored more thoroughly (Valentine, 2005). Silverman (1993 – cited in Valentine, 2005) furthermore states that this method also allows interviewees to mention issues that were not thought of by the interviewer beforehand.

The interviewees were approached by telephone or e-mail and every one of them agreed on being a respondent. They were not all selected beforehand, instead the technique of snowballing was applied. Valentine (2005, p.117) explains this technique as “using one contact to help you recruit another contact, who in turn can put you in touch with someone else”. One of the project leaders of the Dollard dike project was the contact person within the water board for this research, and via him other individuals were selected, after which others were selected in turn. The explorative interviews in Germany were initiated in a similar way after the first interview with the ‘Rheider Deichacht’ (Rheider dike board). For actually conducting the interviews, all interviewees were visited at their (former) workplaces, both because they were then situated in a familiar environment and also to minimize their efforts. Because semi-structured interviews were conducted, questions were worked out beforehand but there was room for new ideas or side-ways as well. Different questions were used for every interview, however all of them were structured from generic to specific. Every interviewee was asked first to describe his or her function and acquaintance with the Dollard dike project. After that, each conversation focused on the particular function of the individual and the development that his or her function experienced through the years. In these descriptions individual frames were to be identified as well as important events and moments of reframing or frame alignment. The aim of the interview questions was thus to find out how the particular individual has experienced and is experiencing what is going on in the water board.

To give the interviewees the opportunity to prepare for the interview and to get the most information during the conversation, the questions were sent in advance by e-mail. By sending the questions beforehand, the interviewees were enabled to look up answers and they were not unexpectedly exposed to difficult questions that could not be answered. This way the chance increased that the interview would be successful because interviewees knew what was expected from them: if they could not provide the answers, they might have suggested to talk to someone else instead. O’Connell Davidson & Layder (1994 – cited in Valentine, 2005) describe that interviews are social encounters in which the answers provided by the respondent are to a certain extent dependent on how the interviewer and interviewee think and feel about each other. By visiting interviewees in their comfort zones and sending the questions beforehand, these interviewer-interviewee relationships were positively influenced.

Because it is meaningful to follow the conversational flow of an interview (Valentine, 2005), every interview was recorded with an iPod Nano. This allowed to concentrate on the interview instead of on writing down the right keywords, to initiate an ongoing conversation, and to produce an accurate and detailed record of the interview (Valentine,

2005). Not everyone wishes to be recorded though (Valentine, 2005), and therefore every interviewee was asked if taping the conversation was fine. Every interviewee agreed on recording fortunately, but in case people did refuse, a notebook was brought to all the interviews. Afterwards the recorded memos of the interviews were transcribed in a subjective manner, meaning that insignificant and unimportant sentences or comments were not written down. This was done to shorten the amount of text that was to be analyzed afterwards. The interviews were neither transcribed literally due to practical reasons, since literally transcribing eleven interviews would have taken too much time. Subsequently, its contents were labeled by using green and yellow colors. The colors were used to highlight passages that covered events outside the water board and events within the water board that affected or are affecting the collective action frame. The interviews were after that analyzed in a pragmatic way without using a systematic approach. Each interview contained information regarding a specific part of the empirical research, which resulted automatically into a categorization as each interview was transcribed in a separate document. There was little overlap between the different interviews, hence the text of each interview was studied when its specific content was being dealt with. When a specific part of the interview was discussed, this part was deleted from the transcript so that it was clear which information was still to be used.

Depending on the specific interviewee, the interviews took between twenty minutes and two hours. Finally it is important to state that the interviews were conducted in Dutch, and therefore the quotes that are used in this report have been translated.



4. *Water management on the macro and the micro*

In this chapter an overview of existing discourses in water management is given first. The notion of sustainability is also discussed to explain the goal of current water management and the vagueness around this goal. And because the Dollard dike project specifically focuses on coastal protection, this specific field of water management is discussed in detail. These three topics provide the (inter)national context in which the water board is situated. Subsequently, this context is used as a reference point for the water board to show to what extent their collective action frame relates to the discursive dynamics on the macro. Therefore, a historical perspective is adopted to describe the water board Hunze & Aa's since its origination in 2000. From this historical perspective, events that have influenced the water board its collective action frame and hence the Dollard dike project, are presented in chronological order. The Dollard dike project is also depicted as one of the events that has influenced or is influencing the collective action frame. Finally, the events from the macro and the micro are combined in a graph, which gives a clear oversight of what exactly has influenced and is influencing the water board.

4.1 *Discourses in water management*

4.1.1 *Between a technical and communicative rationality*

When looking at water management specifically, the previously mentioned shift from a technical rationality towards a more communicative rationality is also noticeable. These rationalities are here regarded again as discourses, in which the technical discourse is



initially dominant and the communicative discourse is increasingly gaining attention over time. Within this shift, its reasons and the moment of discourse destabilization are clearly observable, as well as the pathway from this destabilized discourse towards dislocation. Actual dislocation of the technical rational discourse cannot be ascertained yet, but it is evident that water management in general is developing towards a communicative style.

Traditionally, decision-makers in water management assumed predictability concerning the future, which is in accordance with the technical rationality (Haasnoot et al., 2013). This belief in predictability was present in Dutch water management also, and Van der Brugge et al. (2005) refer to this type of water management as the technocratic scientific style. The technocratic discourse in water management is characterized by the fight against water and the attempts to control it, which results in intensive canalization, drainage of redundant water and the building of hard structures such as dams and dikes (Van der Brugge et al., 2005; Van der Brugge & Rotmans, 2007). Van der Brugge & Rotmans (2007) describe this situation as one in which water followed the needs of society. Van den Brink (2009) further describes several characteristics that suit a technocratic system, such as a technical engineering culture, a strong belief in technical abilities of experts and the ability to shape society, a hierarchical organizational structure, and a project management tradition.

The hard engineering approach that is characteristic for technocratic water management is increasingly being challenged though (Slobbe et al., 2013). Points of criticism on the technocratic approach are a lack of sustainability, environmental concerns, and ineffectiveness that results in social, financial and ecological damage (Van der Brugge et al., 2005; Slobbe et al., 2013). Van der Brugge & Rotmans (2007) elaborate on the shortcoming of the technocratic approach a little more by stating that the nature of problems in the field of water have changed from a technical problem to a persistent problem. With a persistent problem they refer to the presence of plurality, uncertainty, and complexity, notions that a technocratic approach is unable to deal with. As a response to these critiques, the Dutch water management regime is experiencing a shift from the technocratic towards an integral and participatory style (Van der Brugge et al., 2005; Loorbach & Rotmans, 2006). A regime in this context refers to dominant practices, rules and shared assumptions (Rotmans et al., 2001), and can be considered as the dominant or hegemonic discourse in Dutch water management. This shift was initiated 30 to 40 years ago by the ecological turn in the 1970s, in which the importance of ecological aspects was increasingly acknowledged (Van der Brugge et al., 2005). The protests against the Eastern Scheldt storm surge barrier are the most striking for this period, which led to a national debate and ultimately to a change of the construction plan in 1974 (Van der Brugge et al., 2005). This caused the hegemonic, technocratic discourse to be destabilized and allowed the opportunity for other, more communicative discourses to gain importance. The shift away from the technocratic discourse was further accelerated by the river floods of 1993 and 1995, which opened up a window of opportunity for actual changes to happen (Van der Brink, 2009). The goal of this transition from technocratic towards integral and participatory water management is to achieve a more sustainable water system (Van der Brugge et al., 2005). For the change in the Dutch water management regime to actually become a successful transition though, Van der Brugge et al. (2005) state that several impediments need to be overcome, and the most important one of these barriers is the “old-fashioned organizational structure of the regional water boards” (p.171). Because the water boards can be mainly regarded as executive organizations in Dutch water management, this statement refers to the lack of institutionalization in water boards. Discourse institutionalization namely requires that a discourse solidifies into organizational practices to become dominant (Hajer, 2005). Based on Van der Brugge et al. (2005),

structuration of the integral and participatory discourse on the other hand can be regarded as achieved in Dutch water management.

Integral and participatory water management should, according to Van der Brugge & Rotmans (2007), be better able to cope with the complexity of future uncertainty, the interconnectedness of different policy fields, and the involvement of many stakeholders. According to Van der Brugge et al. (2005), integration in water management means perceiving the water system as a whole by integrating its social, ecological, and physical components. Disco (2002) emphasizes that especially the inclusion of ecological criteria into coastal engineering is important. With regard to the participation aspects of this approach, examples of stakeholders that can or should be included are agrarians, representatives of nature organizations or investors. Water boards therefore have to invest more time and resources to fulfill the integral and participative needs of the approach, hence their habits of approaching and actually dealing with issues needs to change. In contrast to the technocratic approach and its technical rationality, this style of water management corresponds more with the communicative rationality.

In line with the transition in Dutch water management, a new Delta Committee was established in 2007 that listed safety and sustainability as the two pillars for the coming centuries (Deltacommissie, 2008). According to the recommendations that were mentioned in the Committee its report 'Working together with water', the policy concept of 'room for water' was introduced and a flood risk approach was developed (Van der Brink, 2009). These concepts can be regarded to push the integral and participatory discourse towards institutionalization, because the water boards were responsible for the execution of these concepts. Based on Van der Brugge et al. (2005), water boards in that time were assumed still to be not enough identified with a communicative rationality, and the execution of these concepts forced them to include the communicative principles of the Delta Committee. The concept of 'room for water' means that the thought of fighting the water was abandoned, and that the thought of living with water was adopted instead. Through spatial and technical measures more space was created for water, for instance through the broadening of riverbeds, to reduce the probability of flooding, while ecological facets were simultaneously domesticated as well (Van den Brink, 2009). For flood protection this shifted the focus from the dominant habit to raise dikes towards spatial solutions, such as retention zones (Van der Brugge, 2009). For the water boards this entailed that communication was to be intensified with land owners and surrounding inhabitants for instance, so that spatial measures could actually be taken. The latter, flood risk management, refers to the inclusion of reducing potential impacts of a flood, in addition to reducing the probability of a flood. An example of reducing the consequences of a flood is the adaptation of houses and infrastructure so that they are better prepared for a possible flood (Van den Brink, 2009). Another example is the prohibition of housing or economic activities in river floodplains rather than constructing dikes to protect these people and investments (Van der Brugge & Rotmans, 2007). Both examples require water boards to step up and enter into a conversation with other involved authorities and organizations which intensifies their workload. These concepts were encouraged by the European Commission, which proposed new strategies in water management based on water as the guiding principle in spatial planning and the water chain of retaining, storing and draining (Van der Brugge & Rotmans, 2007). The Netherlands adopted these proposals for instance through the creation of the 'Watertoets' (Water Test), in which water managers are actively involved in early stages of a spatial plan (Van Koningsveld et al., 2008).

The criticism and the ecological turn thus caused the former hegemonic, technocratic discourse to be destabilized, and the floods accelerated the shift towards a new discourse. As explained here, it is clear that consequences of these events, such as social damage due to democratic deficits, cannot be domesticated within the technocratic discourse (Van den Brink, 2009). The destabilization of the technocratic discourse created opportunities for other discourses to gain attention, of which the integral and participatory discourse gained most support. However, actual dislocation of the technocratic discourse is not yet taking place either, since many hard structures are still proving their value and some impediments towards a successful transition therefore still need to be overcome. Despite the fact that Van der Brugge stated in 2009 that the Dutch water sector is operating less autonomously and is interacting more with other policy fields, there is no clear indication in the scientific literature though that the statement of Van der Brugge et al. from 2005, specifically concerning the organizational structure of Dutch water boards, is not valid anymore. In other words, from the scientific literature it cannot yet be concluded whether the Dutch water boards have managed to adopt this integrated and participative discourse in their collective action frames. Therefore it is interesting to compare the national context to the collective action frame of the water board, in order to find out how the two relate at this moment in time and how actual structuration and institutionalization of the integral and participatory discourse can possibly be completed.

4.1.2 Sustainability

As mentioned before, the transition towards an integral and participatory water management style aims at achieving a sustainable water system. Sustainability is therefore a common term in water management in general and coastal protection in particular. However, there is a plurality of interpretations of sustainability available which makes it often difficult to understand what exactly is being meant with this term (Agyeman & Evans, 2004; Hugé et al., 2013). This plurality causes the word 'sustainability' to be widely used and hence often misused (Jeffery, 2006). Jeffery (2006, p.604) explains this by stating that sustainability is generally seen as something desirable, and therefore it is being used to "sell products". The problem in that lies according to Jordan (2008) in the definition of sustainability, as written by Brundtland in *Our Common Future*: "Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (WCED, 1987 - cited in Jordan, 2008, p.20). This definition leaves room for a multitude of definitions since it does not state how or when to achieve sustainability. Jordan (2008) emphasizes though that exactly this obscurity is the strength of the concept. First, by leaving precision behind, opportunities were created for sustainability to accommodate all sorts of policy fields and its associated elements. Second, the debate concerning the particular meaning of sustainable development in decision-making itself has enormous value. Nevertheless sustainability can be considered as a fuzzy concept due to its multiple understandings, and therefore struggles over its exact interpretation will inevitably take place (Healey, 2007; Porter & De Roo, 2007). Perhaps because of this fuzziness, sustainability is most of the time included as a secondary objective (Porter & De Roo, 2007).

The existence of multiple interpretations results in the existence of multiple sustainability discourses. This can be translated to water management, because the integral and participatory discourse brings implications for the field of planning. Approaches that arise within this discourse all aim for sustainability, but the exact meaning of this notion can differ a lot. Hugé et al. (2013) therefore differentiate three different discourses concerning sustainable development: sustainable development as integration, sustainable development

as limits, and sustainable development as change. Integration refers in the first place to integrating political, economic, social, and cultural development, but Robinson (2004; cited in Hugé et al., 2013) states that integration also applies to the views and interests of different stakeholders as well as to various temporal and spatial scales. This discourse is well known for its division of sustainable development into environmental, social, economic, and institutional/governance pillars (Bosselmann et al., 2008; Hugé et al., 2013). Sustainable development as limits is seen as development within the carrying capacity of the Earth, and therefore touches upon the relationship between nature and human society. It connects human population growth with resource availability, such as non-renewable resources, for instance. The third discourse considers sustainable development as a process of change, hence the continuous need to think about our future. It emphasizes the need to change human lifestyles through social transformation processes that exist out of new ways of learning and management practices (Rotmans et al., 2001 – cited in Hugé et al., 2013). The transition in Dutch water management towards an integral and participatory style thus fits best in the discourse of ‘sustainable development as integration’. Because of the fuzziness of sustainability there are of course other differentiations possible (see for instance Duxbury & Dickinson, 2007; Bosselmann et al., 2008; or Waas et al., 2011), however this division is adopted because of its conciseness and usefulness for coastal protection. An important aspect to mention though from the principles from Waas et al. (2011) is the normativity principle, referring to the fact that sustainable development is always socially constructed and can therefore never be completely objectively assessed. This means that authorities and other organizations in water management, among them the water boards, need to make clear in early stages of planning processes what sustainability refers to in a specific context. It should be prevented that these parties also use the term sustainability as a product to sell, so that it does not become a meaningless term but a purposeful principle instead. The discussion itself is very useful, because it creates clarity about what exactly is desired by the involved parties and what should be prioritized. This also implies that communication regarding the exact goal that is to be pursued in a water management project is vital and should take place in an early stage.

Regardless of which particular discourse is pursued, Hajer & Versteeg (2005) tell that sustainable development cannot be dictated in a top-down way. Loorbach (2010) extends this by stating that coordinative and competitive approaches are outmoded as effective tools to generate sustainable solutions. However, he continues by mentioning that sustainable development will not succeed without them either, hence the need for new governance approaches that combine aspects of all three governance models. Organizations in water management therefore need to choose the right approach for a desired and defined degree of sustainability, which can be guided by adopting notions from post-contingency theory.

4.1.3 Coastal protection

In addition to water management in general, the transition from the technocratic towards the integral and participatory discourse is also recognizable in coastal protection in particular. The moments of destabilization, structuration and institutionalization in coastal protection specifically correspond to those moments in water management generally, and therefore this part is limited to the contents of the two opposing discourses. Additionally, several modern approaches that arose out of the shift towards an integral and participatory discourse are discussed as well. These approaches are relevant to mention, as it is interesting to explore to what extent they are noticeable in the approaches of the water board.

Nowadays sustainability is globally adopted as a leading model for societal development (Waas et al., 2011; Christen & Schmidt, 2012). However, in coastal protection in particular the challenge for achieving sustainable development is even more pressing due to the presence of climate change and sea level rise (Nicholls et al., 2007). These natural, although human-induced, phenomena will result for instance in increases of flood risk, flood frequency, flood damage, erosion, extreme water levels and wave heights, and wetland loss and change (Nicholls et al., 2007). To achieve sustainability in coastal protection, several approaches have been originated. Following a post-contingency perspective, the approach that is exactly taken depends on the context but as well on the specific interpretation of sustainable development. However, it is clear that the traditional, technical perspective alone is increasingly resulting in negative or unforeseen impacts on local ecology (Borsje et al., 2011). Engineering approaches that carry out the technocratic discourse are therefore increasingly being challenged, hence there is a need for approaches that can deliver a sustainable coastal protection system (Van der Brugge et al., 2005; Slobbe et al., 2013). This implies a shift away from the technical rationality, which is characterized in coastal protection by flood safety as the only priority and a single responsibility for the water authorities to solve the issues faced (Kamphuis, 2005).

Kamphuis (2006) states that post-modern, communicative approaches, with their focus on optimum rather than perfect solutions, are more suited to achieve sustainable development of coastal systems. According to Dieperink et al. (2012), integration of economic, environmental and social aspects together with long-term thinking and planning are a requirement for sustainable coastal development. To do so, they state that open planning processes and stakeholder involvement are necessary, and communicative rational approaches can serve particularly for this necessity. Similar as for communicative approaches in planning in general, other problems that exist in the coastal area are taken into account as well and stakeholders are being included in the decision-making process (Kamphuis, 2006). This can for instance mean that spatial measures are taken such as designing the hinterland in a way so it can cope with wave overtopping. The results of communicative approaches can thus still be aimed at engineering, however the process towards the actual engineering is changing. Furthermore communicative approaches can be considered to result in more area-oriented solutions, in contrast to the former line-oriented solutions. In the Netherlands, the new Delta Committee suggested such an integral approach in their journey towards sustainable coastal development, meaning that next to water safety also aspects such as provisions for fresh water supplies, preservation of natural and recreational areas, and sustainable energy are included (Kabat et al., 2009). For spatial planners this means that instead of providing final proof, they should rather provide the best possible insights that are needed for an optimum solution (Van Koningsveld et al., 2008). It is important to state though that sustainability in coastal protection is not something that is permanently present once it is achieved. Brooke (2000) underlines this by stating that for a coastal defense system to be sustainable, it needs to be sustainable in the long term: "there is no such thing as sustainable in the short term" (p. 140). Examples of approaches that are in line with the discourse of integral and participative coastal protection are integrated coastal zone management (ICZM) and building with nature. Both aim for a sustainable coastal system, yet both differ in what is exactly to be achieved and how to get there.

Integrated coastal zone management is an integrated multidisciplinary and participatory approach that, in addition to coastal protection, aims to sustain coastal resources and communities (Nicholls et al., 2007). ICZM considers coastal management not only to focus on the single protection line, it focuses instead on the coastal zone as its field of activity. By extending its field of activity to the coastal zone, ICZM is better capable to take other

interests and activities into account as they are directly present in its working area. Through this, ICZM intends to minimize conflicts between activities and negative consequences of those activities upon resources and the environment, and to maximize the benefits that are present in the coastal zone (World Bank, n.d.; cited in Ahlhorn, 2009). Nicholls et al. (2007) state that by doing so, ICZM is extensively considered to be the most appropriate approach to deal with long-term coastal challenges. In 2002 the European Commission adopted a Recommendation with regard to the implementation of ICZM for all European Union Member states. Eight key principles are outlined in this Recommendation which should lead in coherence with each other to the sustainable management of the coasts along the EU: broad holistic approach, long-term perspective, local specificity, working with natural processes, adaptive management, combination of instruments, support and involvement of all stakeholders, and participatory approach (Ballinger et al., 2010). Sustainable management can from an ICZM perspective thus be identified with the discourse of sustainable development as integration. Ahlhorn et al. (2010) underline this by describing that sustainable development of a coastal zone concerns balancing ecological, economic and social aspects, however they state that public participation should be recognized as one of sustainable development its pillars as well. This is emphasized by Areizaga et al. (2012), who further elaborate on this by explaining that three parts are critical for stakeholder participation. The first part is to define and to classify the stakeholders that should participate, the second is to design the specific method of participation with in mind a certain level of participation that is required, and the third is to evaluate the process of participation. Of course these criteria for participation are not only valid for ICZM, they can and should rather be applied to participation processes in all spatial decision-making.

The other approach that is increasingly gaining attention, especially in the Netherlands, is building with nature. This approach actually builds upon one of the principles of ICZM, namely working with natural processes. Van den Hoek et al. (2012) consider building with nature to be part of the ecological engineering movement, with its aim to design sustainable ecosystems in which human society and its natural environment are integrated for mutual benefits (Constanza et al., 2006). An example that Constanza et al. (2006) give with regard to eco-engineering is to increase coastal wetland areas, so that a cost-effective and sustainable system against storm surges is the result. Building with nature can be accommodated under the umbrella of eco-engineering, as it promotes to use natural processes to realize effective flood management systems, while it simultaneously tries to find opportunities for nature development (Van den Hoek et al., 2012). By doing so, Waterman (2007) states that building with nature results in a sustainable system that exists and develops in harmony with its natural environment. Sustainability according to this approach can be identified with the discourse of sustainable development as limits, as it touches upon the relationship between nature and human society. The most prominent example of building with nature in the Netherlands is beach nourishment, a technique that is used to protect the Dutch coastline against erosion. Already since 1990 sand nourishments are applied on the beaches, where sand is being shipped to the beach and subsequently being distributed over the area (Rijkswaterstaat, n.d.). Since 2007 though Rijkswaterstaat also applies foreshore suppletions, where sand is being dropped on the foreshore whereupon waves transport the sand in a natural way to the beach (Rijkswaterstaat, n.d.). Especially the most recent approach for beach nourishment can be considered to be an actual building with nature approach, as verified by Mynett (2011) for example. Building with nature can thus be considered to promote natural processes, hence the move away from hard engineered, line oriented structures for coastal protection (Kabat et al., 2008). According to Cooper & McKenna (2008) this approach arose out of the awareness that coastal engineering is harmful for the environment since ecosystems experience them as obstacles. They state that this even applies

for beach nourishments, however Speybroeck et al. (2006) expound that nourishments are widely considered to be a better alternative than the creation of hard structures.

In addition to these approaches, the notions of resilience and adaptive management are increasingly being introduced as an attempt to handle uncertainty, both internationally (see for instance Van der Brugge & Rotmans, 2007; Innes & Booher, 2010; Ahern, 2011; Geldof et al., 2011; or Haasnoot et al., 2013) and nationally (see for instance Deltacommissaris, n.d.). There is much vagueness concerning the exact relationship between these two, however an elaborate explanation of all the different interpretations will not be given here. Instead, the resilience model of Galderisi et al. (2010) will be used first to explain the relevance of these notions for water management, as it connects very well to flood protection. Galderisi et al. (2010) consider a system to be resilient if it is robust, adaptable, and transformable. These three dimensions constitute the ring-model of resilience, in which each dimension is linked to a particular phase of a disaster as well. Robustness means the capacity “to withstand a given level of stress without suffering losses or failures” and is relevant at the impact phase, adaptability is considered to be “the capacity to adapt in face of the consequences of a hazardous event” and gains prominence in the response phase, and transformability is “the possibility to turn the disaster into an opportunity by creating different conditions in respect to the pre-impact configuration” and is necessary in the recovery and preparation phase (Galderisi et al., 2010, p.11). A flood resilient area thus requires more than an adequate dike alone to properly deal with risk and uncertainty. This resilience approach already touches upon it as it goes beyond robustness and thus beyond expectations, but it is important to emphasize that future risks are not known and cannot be calculated and controlled (Beck, 2006). With reference to coastal protection in particular, Van den Hoek et al. (2012) state that structures such as dikes have been successful in the past, however they can still be vulnerable when events occur that are greater than foreseen in the structure of the dike. Constanza et al. (2006) take this perception even further by describing that rebuilding levees will only delay the inevitable, which makes it an unsustainable system. This can be clarified by stating that land subsidence on one side of the dike and sea-level rise on the other ask for long-term adaptations (Kabat et al., 2012), as the difference between both sides keeps increasing hence the potential damage in case of a flood will increase as well. In that sense dikes create a false sense of security (Kundzewicz, 2002; Duxbury & Dickinson, 2007). Kundzewicz (2002) remarks though that hard measures may be indispensable in certain situations and that a combination of hard and soft measures is then required. Van Koningsveld et al. (2008) highlight the importance of dikes further by adding that removing dikes is not justifiable from an economic and socio-emotional point of view.

Contemporary literature on adaptive management specifically touches upon the need to include flexibility in decision-making with regard to the unknown risks of the future. Adaptive management can be captured within the resilience concept though, as it is comparable with the adaptability and transformability dimensions, but it is useful to elaborate on this concept a little more. Ahern (2011) describes adaptive management as a concept that allows decision-makers to address uncertainty and learn-by-doing through conceptualizing actions as experiments that can adapt if results are not as expected, or to learn new methods when actions turns out to be ineffective. Long-term objectives should be guiding for short-term actions, while also being adaptive to new developments and experiences (Van der Brugge & Rotmans, 2007). An example of such adaptive management is given by Haasnoot et al. (2013), who suggest to maximize the flexibility of a solution, to keep options open and to avoid lock-ins. Their approach prescribes that all possible actions concerning a problem, its vulnerabilities and its opportunities should be identified, after which different adaptation pathways and a corresponding pathway map are to be

developed. Out of these alternatives the preferred pathway can subsequently be chosen. A long-term goal, such as flood safety, can thus be used to guide short-term actions, while these actions themselves remain open for adaptation. For coastal protection this could for instance mean that the reliance on a dike turns out to be unfounded because of an unexpected increase in sea level rise and the impossibility to keep raising the dike – hard structures such as dikes may in the long run increase the vulnerability of societies rather than to reduce it (Slobbe et al., 2013). When this is the case, adaptive management allows decision-makers to deviate from the chosen pathway and to follow a different path instead. It is then important that in current decisions long-term objectives are taken into account, so that many objects of current flood protection, in which options are closed for future generations, are noticed and adapted in time (Kundzewicz, 2002). Examples of such different pathways could be controlled flooding, flood proof buildings, floating agricultural systems, managed realignment or flood hazard mapping (Nicholls et al., 2007; De Kraker, 2011). It thus forces decision-makers to think about ‘what if ...’ -questions with regard to possible consequences and alternatives beforehand, so that when signs about the future become clear or new and better technologies arise, adaptation is possible. To even further encourage adaptation in coastal protection, Nicholls et al. (2007) state that adaptation costs for vulnerable coasts are much less than the costs of inaction. Kabat et al. (2009) confirm this statement particularly for adaptation in the Netherlands.

4.1.4 Overview

The previous paragraphs made clear that a shift from technocratic towards communicative water management is noticeable. Where organizations in water management traditionally applied a hierarchical and sectoral approach for dealing with water issues, nowadays an integral and participative approach has become dominant. The technocratic discourse became criticized and challenged due to its social, financial and ecological shortcomings, and this ultimately resulted in the destabilization of this discourse. This moment of destabilization was mainly the result of the ecological turn in the 1970s, where after alternative and more communicative approaches were increasingly being sought to adequately deal with issues in water management. The river floods of 1993 and 1995 pushed the regime even further away from the technocratic discourse, resulting in the fact that the integral and participatory discourse increasingly gained attention and followers. This shift from the technocratic towards a more communicative style of water management is characterized as the transition in Dutch water management, with the purpose to achieve a more sustainable water system. This transition further developed itself through the increasing awareness for the concept of sustainability and increased national attention, for instance via the new Delta Committee, which promoted the principles of safety and sustainability as the two pillars for Dutch water management. The committee introduced several concepts that were focused on integral and participative water management, and they were encouraged by new strategies from the European Commission. Approaches that are in line with communicative water management are for instance integrated coastal zone management and building with nature. The further contents of the transition from technocratic towards communicative water management are depicted in figure 7 on the next page.

Despite the fact that the water boards are still regarded as more technocratic organizations, it is reasonable that the Dutch transition will influence the water boards according to the theoretical model of this thesis. This means that the integral and participatory discourse will influence the collective action frame via its individual frames. The notions that are displayed in figure 7 will thus become important for the water boards, which means that their way of

approaching and actually dealing with issues needs to change as well. Time and resources will need to be invested to fulfill the communicative needs, but social, financial and ecological benefits will follow.

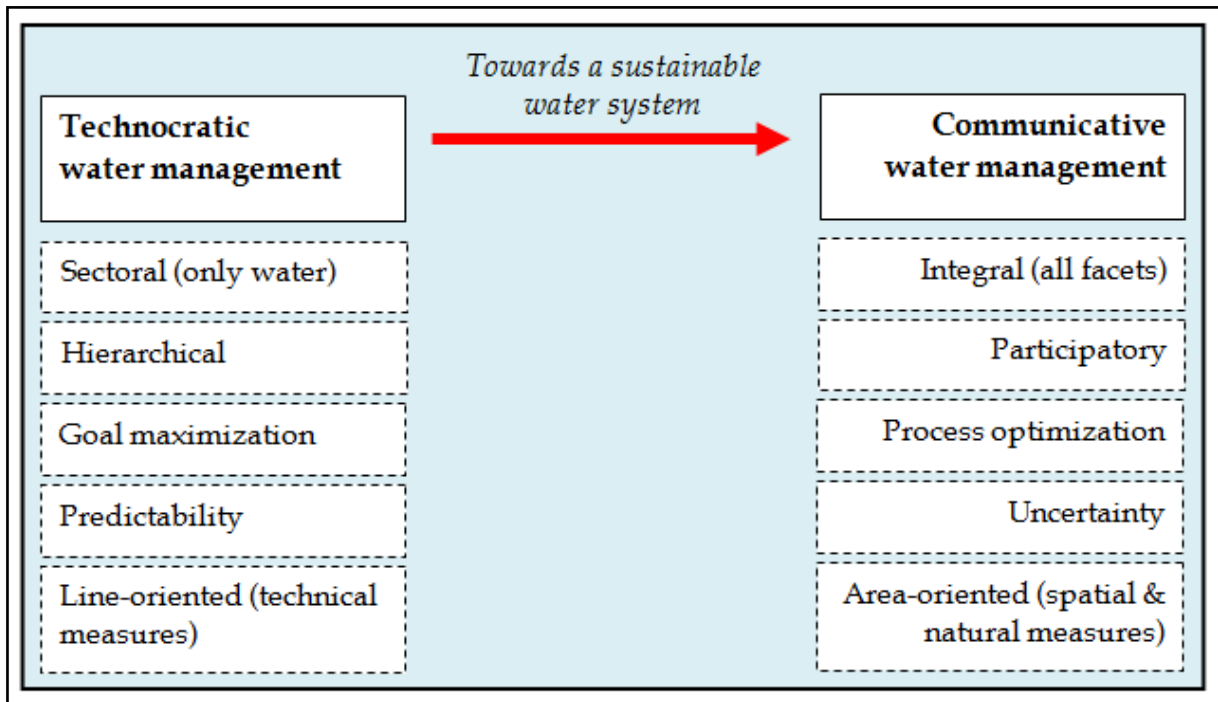


Figure 7 – Overview of the developments in water management.

4.2 The collective action frame of the water board Hunze & Aa's

4.2.1 Frame generation

The fusion in 2000 out of which Hunze & Aa's arose was obviously an important moment for the water board. From that moment on the water board had to draw up an identity out of the different identities that existed before. This took place via processes of frame articulation and amplification, and as stated in the theoretical framework, this whole process is referred to as frame generation. How the frames of the separate water boards exactly looked like before the fusion is left aside, however it became clear that the generation of Hunze & Aa's its collective action frame contained some changes compared to the previous frames. The fusion was thus used as a window of opportunity for the new water board to introduce change for its whole field of activity. When at the end of 2002 the first management plan was established, the collective action frame was for the first time reflected in a policy document. This document is therefore considered to be the completion of the process of frame generation. Despite the fact that characteristics of a communicative rationality were already appearing in the process of frame generation, the collective action frame in that period is regarded as more technocratic. Out of the management plan it became clear however that the water board chose to deviate away from a technocratic style of water management.

At the 1st of January in 2000 the water board Hunze & Aa's was officially established. The former water boards Dollardzijlvest and Hunze & Aa's and parts of the water board Eemzijlvest, the 'Dienst Zuiveringsbeheer' (Service Water Treatment) of the province of Groningen and the 'Zuiveringschap' (Water Treatment board) Drenthe were merged out of which the water board Hunze & Aa's originated. At the head of the organization there exist

two managements: the so-called 'dagelijks bestuur' (daily management) and the 'algemeen bestuur' (general management), which are both elected every four years. The water board its field of activity covers the most northeastern part of the Netherlands and its borders touch the cities of Delfzijl, Groningen, Assen and Emmen.

It became clear that the fusion itself can be considered as a change-over in the area of communication. Formerly there was a spokesman who answered questions or communicated messages to the 'ingelanden', persons with properties within the borders of a water board. One of the communication advisors described this as acquainting the public only from the perspective of the water board, "communication as one-way traffic" (3 July 2013, Veendam). The way it precisely changed after the fusion is not unambiguous, but it is evident that things were being organized in a different manner, as showed hereafter. In the same period as the fusion, a development is noticeable as well in decisions that had to be made concerning water levels. Around the year 2000 the province commissioned that such decision projects had to be carried out around nature areas and 'boezems', areas to store polder water, too. Before that, the water board executed such projects largely on their own without communicating its actions with the surrounding residents and organizations. But because conflicting interests were present in these areas, the water board staged information meetings to deliberate with the persons involved. These meetings were organized to prevent people to put forward 'zienswijzen' (official points of view) or to raise objections. During these meetings the water board presented their proposals for the particular project and the attendants could share their perspectives at that moment. As one of the hydrologists from Hunze & Aa's formulated it: "We did our homework first, we explored what from our perspective would be the best water level, and we shared that with the district" (3 July 2013, Veendam). This was similar for the design of areas, another type of projects that was mentioned for adopting participative methods already around the turn of the century. Information evenings were organized to make an inventory of the interests that were present in an area, with the aim to create balances and to ultimately achieve financial gains. But also for these meetings the water board presented its proposals and attendants could speak up if they wanted to. With reference to the participation ladder, the participative approaches for these projects can be considered as symbolic participation. According to one of the hydrologists that was involved in these projects, the inhabitants nonetheless appreciated the efforts of the water board. The fusion namely caused the distance from the inhabitants to the water board to increase, and therefore people appreciated the fact that they were heard.

At the end of 2002 the 'Beheerplan' (Management Plan) 2003-2007 was determined, and this document can be considered as the first management plan for the water board Hunze & Aa's. A management plan is the main policy document for the water board, in which the main pillars for policy, management and maintenance are discussed. Because of this policy document, the collective action frame of the water board was formally generated. Before the plan out of 2002, the management plans of the former water boards, which were established in 1998, were valid. The policy strategies from these plans were reflected in the Management Plan 2003-2007 as well. Four principles were stated in this plan that form the philosophy of the water board: sustainability, natural balance, the surroundings at the centre and transparency. These principles already touch upon important aspects of integral and participatory water management, showing that this was the road to be followed. In explaining its philosophy, the water board also states that due to the many varieties that exist in society and in its organizations and institutions, one uniform approach will not suffice. This statement is in line with contingency theory, as it perceives what is the context exists of and subsequently a suitable approach stems from that. This shows that the water board was already aiming to adjust their approach to the context and processes that were

encountered. The mission that was derived from that philosophy was as follows (p.40): “As water board Hunze & Aa’s we represent a good, integral and sustainable management of the water systems, accessible waterways and safe levees within our area of activity. We are proactive, ambitious and work in an area-oriented way. We are standing within the society. We are proud of the commitment of our people and we wish to be accounted for the effectiveness, the efficiency, the openness and the customer-orientation of our actions.” Nonetheless the water board stated that safety will always and everywhere be the first priority. The plan further highlighted the increasing role of communication in acquiring public support. The water board was aware that individual citizens were becoming more outspoken and preferred more information, but they admitted in the same plan that the organization and communication of that time was too limited to provide this.

Despite the fact that the fusion cannot solely be indicated as the event that introduced change to the activities of the water board, it can definitely be considered as an event of relevance. It created a window of opportunity to introduce change concerning the management style of the former water boards. Although the participative efforts can be considered as symbolic participation, first steps towards more integral and participative approaches can already be identified around the period of frame generation. This was further elaborated in the management plan from 2002, in which characteristics of an integral and participatory water management style were thus also mentioned. The Management Plan 2003-2007 also completed the process of frame generation: Hunze & Aa’s its collective action frame was formally established. As stated here before however, the capacity of the water board to actually fulfill the communicative needs of that time were insufficient. Furthermore, at the moment of publication at the end of 2002 no other projects than those concerning water level decisions and the design of areas were mentioned to include participative and/or integrated approaches. This is acknowledged by the water board itself, as the dike reeve stated in the preface that “paper is patient, after all it is about actions”. Because of that, actual integration of the integral and participatory discourse within the collective action frame was not yet taking place. Notions of the discourse were explicitly mentioned in the management plan, but organizational practices that should have derived from the plan were not executed at that moment. In these years in which the water board was generating a suitable collective action frame, its frame is therefore regarded as more technocratic than communicative, although aspects of the latter were already appearing. The Management Plan 2003-2007 was namely looking forward and sketched to what direction the collective action frame should develop. The inclusion of integral and participative notions in the plan can thus be considered as another step forward towards organizational development, and proved that the water board clearly chose to deviate away from a technocratic style of water management.

4.2.2 Frame destabilization

In the years after the first management plan, and thus in the years after the process of frame generation, signifiers of the integral and participatory discourse were becoming more noticeable. Processes of reframing were also observed in this period, which even resulted in destabilization of the technocratic collective action frame. This happened due to a project that was unlike the frame that the water board had at that moment. The participative and integrated approach in this project could not be integrated in the technocratic frame, hence destabilization was the result. This was also the period that the article from Van der Brugge et al. (2005) was published, in which they stated that the old-fashioned structure of the regional water boards were hindering a successful transition towards integral and participative water management. With regard to that, the water board Hunze & Aa’s still

had a technocratic frame at the moment of publication. The statement from Van der Brugge et al. can thus also be applied to Hunze & Aa's at that specific moment in time, meaning that the water board was indeed one step behind the transition on the macro. The altered approach in the project was namely executed after the publication of the article, and therefore the project and its effects were only visible at a later moment. Via processes of frame alignment this approach was subsequently disseminated within the water board, thereby already influencing the frame of the water board towards actual dislocation.

After the high water in 1998 it became clear that things had to be done to guarantee the flood safety of the hinterland. Heavy precipitation in the end of October of 1998 caused serious trouble in Groningen and Drenthe, such as flooding of quays in the city of Groningen and processes of piping in the dike in Winschoten (Provincie Groningen, 2007). In the early 2000s decisions were therefore made to design storage areas for storing abundant water. From the necessity of safety this was experienced as a task that had to be executed immediately, hence the storage areas were appointed from above by the province. This resulted in lots of local resistance and lawsuits that lasted for years. Not only did those floods increase the awareness that actions were required, it also led to premature decisions that turned a window of opportunity into frictions between the water authorities and the inhabitants.

Due to the negative experiences with these storage areas, the sector head in those days chose to do things completely different. With in mind that a new Management Plan had to be delivered in 2007, he created a budget and hired a process manager in 2004 to work interactively towards this new plan. The events, with the lawsuits as a consequence, thus reframed the individual frame of the sector head into a frame in which interaction was a prerequisite. The route towards the new Management Plan consisted out of the project 'Waterdrager' (Water Carrier), in which so-called water system plans were to be created for each of the six water systems in the water board its field of activity. The new process manager was permanently employed to guide this project, which shows that investments were done to really make this project successful.

The Waterdrager project was prepared in 2004 and actually started in 2005, the year in which the collective action frame can be regarded as destabilized. The project was surrounded by four keywords: integral, future-oriented, area-oriented and interactive. Integral stood for an extension of water safety as the only priority, water quality, water abundance and water shortages were included as well. With future-oriented the project referred to a long-term perspective instead of only looking at the here and now. The year 2050 became the point of reference on the horizon. Area-oriented meant that the project does not only describe measures for the whole area in general but also for the specific water systems in particular. Last of all, interaction referred to a joint challenge together with the surrounding residents and organizations, instead of doing it alone and from above. With those keywords in mind, the water board approached the different regions already in the phase of the problem analysis. The problems and challenges according to the water board were worked out and during these first meetings they were shared with the audience. After that the public was asked how they thought that these challenges should be dealt with, giving them the opportunity to respond and to suggest possible measures. The second step was to inventorize all the suggested measures, to select those measures that are realistic and practical and create strategies out of it, and to couple it back to the public. The last step was the final plan of measures, based on the suggestions and objections from the inhabitants, that was proposed to the management of the water board in 2007. To perform all these informative and participative meetings, time schedules were created for approximately twenty employees, and not everybody within the organization agreed on the intensity of

money and labor that was invested in the project. This shows that things were really done in a different way than before.

The clear difference with former projects was that already in the problem definition phase interaction was sought with the inhabitants and other persons/parties that were involved. Up till then, communication was set up when the water board had an overview of measures on paper that could be shared with the public. In Waterdrager, communication with the public was already set up before measures were even discussed and it showed characteristics of two-way traffic, which brought it a lot closer to real participation. Additionally, the scope of participation was scaled up compared to the previous participative methods, as the project covered the whole working area of Hunze & Aa's. Because of these two reasons, the notions of more intense communication and participation gained familiarity within the water board. Another new thing, and according to the Waterdrager project leader of that time even more meaningful, was that an integral perspective was adopted through which different problems were connected and tried to be solved with the same interruption. This also strengthened the internal relations, since different departments had to cooperate and consequently a broader internal understanding of the water board and its activities was created. Externally the participatory and integrated perspective were appreciated as well, which granted the project to be labeled as successful.

As described, the project had quite some influence on participation and integration within the water board. When viewed from a discursive perspective, the water board its collective action frame can be regarded as destabilized due to the fact that the integral and participatory approach in Waterdrager could not be directly integrated within the more technocratic collective action frame. Because of the lawsuits that reframed the perspective of the sector head, an approach was chosen that was unlike previous approaches. And since an integral and participatory approach is opposite to the former hierarchical and sectoral approaches, the approach could not be integrated within the collective action frame of that time. To further back up this statement of destabilization, use was made of the criterion that a structural crisis has to be observable in which floating signifiers proliferate. The first signs of participation could already be observed around the time of the fusion, but the Waterdrager project took this some steps further. And because the integral and participatory approach was appreciated both externally and internally, it reflects that the former approaches were losing credibility. This crisis concerning the reliability of the hegemonic collective action frame, reflected by the increasing appearance of integral and participatory aspects, proves that destabilization due to project Waterdrager was indeed happening. The notion of frame alignment can also be applied to the meaning of the project. Without the actual purpose to persuade people, the project caused participation and integration to become more familiar and interesting within the water board. It can therefore be affirmed that the project made individual frames within the water board to be more aligned with the frames of the project leader and the sector head. Despite the fact that it is unknown to what extent these individual frame were actually reframed, it can be reckoned that frame alignment through this project took place. This process of frame alignment can further be indicated as the stepping stone towards structuration of integration and participation into the collective action frame of Hunze & Aa's.

It is important to finally highlight the importance of the sector head in that time. This individual had no explicit guidance from above, meaning that he initiated the new approach completely on its own. Through his reframed frame he chose a different pathway towards an objective, and by doing so he ultimately caused the collective action frame of the water board to be destabilized. The process manager of Waterdrager also acknowledged the significance

of the sector head for the project and its effects by stating that “without him it would not have been there” (20 June 2013, Veendam).

4.2.3 Frame institutionalization

Two publications of the management plan came into force after project Waterdrager, ultimately leading to institutionalization of the integral and participatory discourse in the collective action frame of the water board. While the first plan was limited to an update of the previous management plan, the following plan did actually make a difference to the frame of the water board. Building upon the outcomes of project Waterdrager, this plan fully included the discourse of integral and participatory water management, resulting in the achievement of institutionalization within the water board its collective action frame. Frame structuration on the other hand turned out to be yet a bridge too far.

From 2008 a new management plan would formally had to come into force, but because the water board had to determine a so-called ‘stroomgebiedbeheerplan’ (catchment area management plan) on account of the Water Framework Directive they chose to turn away from that. Instead, the current management plan was extended to 2010. The Management Plan 2003-2007 was therefore updated and the Management Plan 2003-2009 (update) was the result. Due to practical reasons this update was limited to matters concerning the content of water and their financial consequences. This meant that the philosophy, mission and vision of the Management Plan 2003-2007 were maintained. No new aspects concerning participation and integration were thus mentioned in this updated plan, hence it did not further influence the collective action frame of the water board.

The Management Plan for the period between 2010 and 2015 has been determined in 2009 and builds strongly upon the four principles of the Waterdrager project. Already in the preface of this plan the dike reeve describes the revolution in planning: “the dominant government from then is the negotiating government from now”. Without mentioning the exact terms, the preface shows that the water board is opposing to the technical rationality and is welcoming the communicative rationality. In addition to that, the plan has four guiding principles of its own, the same principles as described in the former management plan. These principles are sustainability, natural balance, the surroundings at the centre and transparency. Sustainability is defined as management that allows future generations to make use of the water system in a similar way, which means that no-regret measures are aimed for and sources are to be used in a sound way. With regard to the sustainability discourses, this definition can be considered both as sustainability as limits and sustainability as change. Natural balances refers to the integration of the water system into the environment, so that the human and the natural world are protected from each other. With the principle that the surroundings are to be at the centre, the water board aims to put the interests present in the environment at the heart of their activities. Transparency at last describes the way in which the water board attempts to operate: transparent, honest, careful, objective and open. These four notions are stated to contribute to the accomplishment of the mission that the water board defined for itself: “responsibility for safety, clean and sufficient water at low costs” (p.3). The ideas of integration and participation are actually already accommodated within the four guiding principles of the water board, but nonetheless they are exclusively mentioned in the document as well. To provide water safety, quantity and quality, the water board states that these aspects need to be integrated, both with each other and with other tasks and processes in the area. Integral solutions are thus to be sought, by connecting with civilians and companies through interactive and area-oriented processes. But also on a larger scale alliances and partnerships are strived for, since transboundary

issues are to be dealt with as well. The ultimate goal that arises from these objectives is to represent a clear policy and management strategy that is to be surrounded by societal support.

In their Management Plan 2010-2015, the water board shows to be aware of governmental and societal developments and to be able to respond to these developments. The input for this plan of course came from within the water board, however several institutional frames of reference that the plan had to meet are mentioned as well. Those institutional frameworks that applied the most for the water board are the European Water Framework Directive, the European Floods Directive, the Commission Water Management 21st century (WB21), the 'Bestuursakkoord Waterketen' (Administrative Agreement Water Chain), the National Water Plan and the 'Provinciaal Omgevingsplan' (Provincial Surroundings Plan). Keywords that are mentioned in these frameworks are integral, transparent, sustainability and cooperation. This proves that the water board was also influenced, legally obliged or not, by the dominant water discourses on the European and national level. The exact way in which these discourses found their feet in the management plan of the water board did not become clear though. But because the plan shows many characteristics of integral and participatory water management, it is clear that the water board was moving further towards a more communicative organization at that moment.

The project Waterdrager already caused the collective action frame to destabilize, and the use of the two-step procedure that concerns discourse structuration and institutionalization gives further clarification. Discourse institutionalization, which happens when the influence of a discourse consolidates into institutions and organizational practices, can be observed at this moment in time. In addition to the participative projects around the turn of the century and the integral Waterdrager project between 2005 and 2007, an integral and participatory water management style can be witnessed as well in the Management Plan 2010-2015. In other words, next to the organizational practices through the projects, the influence of the integral and participatory discourse is also solidified into institutions. This means that this management style could be regarded as institutionalized already in 2009 in the collective action frame of the water board. However, for this management style to become dominant, it has to be structured into the collective action frame as well. From the interviews it did not become clear if the interviewees used the integral and participatory discourse at that time to conceptualize the world. And because there is no further data on how the people of the water board did conceptualize the world at that moment, there is no indication that the criteria of discourse structuration was fulfilled. Consequently, the integral and participatory discourse cannot yet be regarded as dominant within the collective action frame of the water board Hunze & Aa's. Nonetheless, it is clear that the management plan indicates that the water board is aiming to identify itself rather with a communicative than a technical rationality.

4.2.4 Frame structuration

In the period after the moment of institutionalization, the former technocratic collective action frame of the water board ultimately became dislocated. The moment of structuration was observed and therefore the integral and participatory discourse can be regarded as dominant within Hunze & Aa's its collective action frame. The confirmation of structuration was perceived during the interviews, which made it clear that the water board in general conceptualizes the world from a communicative rationality. The exact moment of structuration did not become clear however, but one of the projects that has contributed to this moment was the Dollard dike project. In line with the proposed policy strategy in the

Management Plan 2010-2015, this project was initiated in 2011 and it placed the notions of integration and participation at the centre. Via meetings that can be regarded as real participation, the project gained societal support and allowed all stakeholders to think along with the project leaders. The main influence for this approach turned out to be individual frames though, which were via processes of frame reconstruction and reframing adjusted so that integration and participation were integrated within them. Processes of frame alignment were observed as well, in order to align the frames of stakeholders with the collective action frame of the water board.

The Dollard is an estuary of approximately 100m² that is located on the most northeastern border of the Netherlands and Germany. The Rivers Ems and Westerwoldse Aa discharge into the Dollard and this water flows through the Ems estuary and the Wadden Sea to the North Sea. Because of that, the area is also officially part of the Wadden Sea. The Dollard is further considered to be one of Europe's last brackish water tidal landscapes (Natuurmonumenten, n.d.). The Dollard accommodates next to water also mudflats and salt marshes, which allows a diverse ecosystem to exist in the area. Therefore, the area is listed as part of the Habitats and Birds Directive and the Natura 2000 network. Vereniging Natuurmonumenten (Society Nature Monuments) has the Dutch part of the Dollard in ownership, but the Groninger Landschap manages the area. This nature organization for the province of Groningen also created, in cooperation with the water board Hunze & Aa's, an opening in the dike along Polder Breebaart. This polder, located at the western side of the Dollard, was turned into a regulated tidal area in which nature development was the main principle.

With regard to coastal protection, a dike is situated along the Dollard to protect the hinterland against the water. The southern part of the Dollard dike is separated into four sections which each have a slightly different profile. Nonetheless the geometry of the dike can be considered as identical. A cross section of the profile of the Dollard dike is displayed in figure 8.

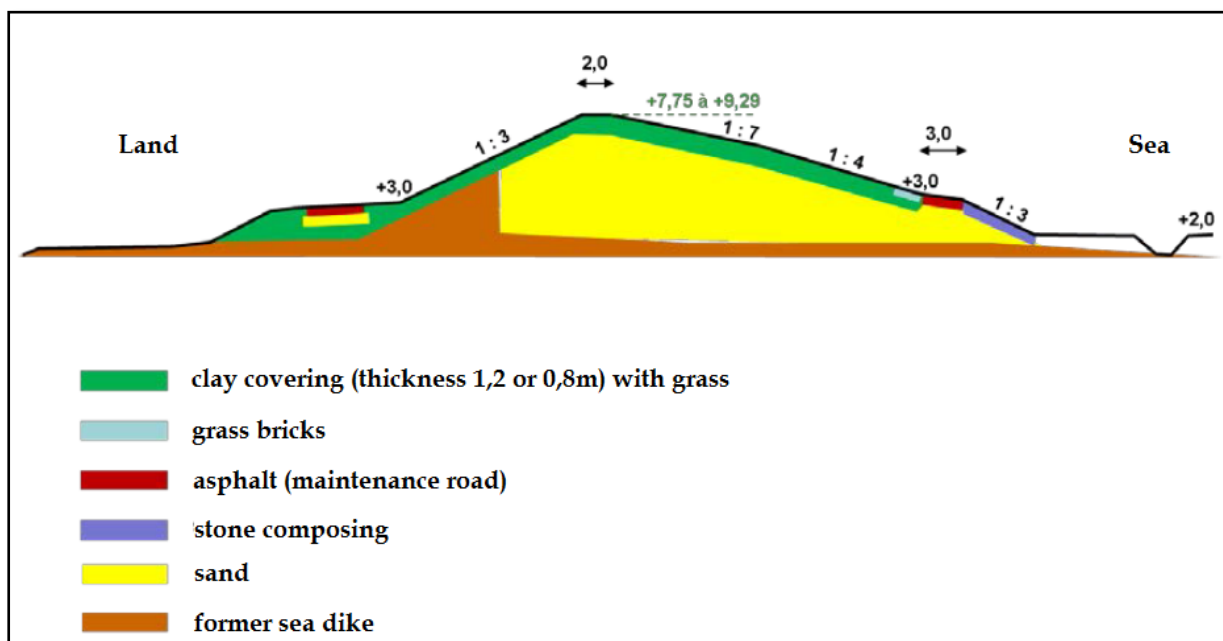


Figure 8 – Schematic cross section of the Dollard dike (Van Loon-Steensma & Schelfhout, 2013 forthcoming, freely translated).

The figure shows that the dike has a bend halfway on the seaside, is largely covered by grass and is completed by a stone covering to withstand the largest wave impacts. In addition to the dike itself, the salt marshes that are located in front of the dike also play an important role in coastal protection. These salt marshes are also part of the Natura 2000 network and they are owned partially by private owners and partially by the Groninger Landschap. The statement that salt marshes are beneficial for coastal protection is widely agreed in the scientific literature (see for instance Boorman, 1999; Constanza et al., 2006; Ahlhorn, 2009; Barbier et al., 2011; Gedan et al., 2011; Van Loon-Steensma et al., 2012). Salt marshes are considered to be protective buffer zones that lie between the sea and the dike. The first benefit they provide is the dissipation of wave energy through which the height and length of waves is reduced. This means that the waves will not reach as far as they would without a salt marsh, but also that the waves that do reach the dike are weakened along the way (Ahlhorn, 2009; Barbier et al., 2011). Borsje et al. (2011) even state that floodplains with vegetation, which are comparable with salt marshes in the context of the Dollard, allow dike heights to be lowered. The second advantage is that the salt marshes can retain large amounts of sediment that can be used to build or restore the dike (Barbier et al., 2011). This sediment retention is also beneficial for the growth of the salt marsh, since through this process the salt marshes can be raised along with sea level rise. Erosion on the other hand causes the salt marshes in the Dollard to diminish from the seaside (Esselink et al., 2011), and in combination with sea level rise it forces the salt marshes to migrate landwards. However, the dike functions as a fixed barrier that prevents this migration to happen, hence the salt marsh is squeezed between the sea and the barrier: a process called coastal squeeze (Ahlhorn, 2009). The salt marshes are thus expected to increase in height due to sea level rise, however they are likely to be decreased in length as well. The third benefit to mention is that salt marshes can positively influence the outward macro stability of the dike and the process of piping (Van Loon-Steensma et al., 2012). Piping refers to the process in which water flows beneath the dike and through which soil parts are carried away as well, resulting in instability of the dike. Both the salt marshes and the dike thus protect the hinterland from the water in the Dollard.

As stated in the first chapter, the 'Waterwet' (Dutch Water Law) prescribes that all primary levees should be tested every six years. The second national testing round, which took place between 2001 and 2006, officially reported that the dike along the Dollard satisfied the prescribed standards. The levee specialist at that time described though that the Dollard dike needed further research to give a proper judgment concerning its physical state. Because there were quite some levees that were officially disapproved in 2006, and because the consequences of the hurricane Katrina in 2005 were impressed in memory, the 'Taskforce Management Overstromingen' (Taskforce Management Floods) was installed to prepare the Netherlands for future floods. This led to a more elaborate testing round between 2006 and 2011, which made clear that large parts of the dike along the Dollard did not meet the future standards. The failure mechanisms responsible for the disapprovals varied per part of the dike, but those that applied were inward macro instability, instability of the grass covering, micro instability and insufficient dike height. A reason that was given by the former levee specialist for these failures was that the previous dike improvement in the 1980s was based upon calculations from the 1960s. With in mind that the lifespan of a dike adjustment is approximately 40 years, the levee specialist stated that "a dike was built that was almost in need of replacement again" (24 June 2013, Veendam). The actual reinforcement officially does not have to take place until 2020, but it was already required to inform the new High Water Protection Program about how this reinforcement was thought to take place. Because of this, the water board started its exploration towards the dike improvement directly in 2011.

The reinforcement was to be dealt with by the levee specialist of that time. The results of the testing round were internally discussed, among others with the current levee specialist, and from that he concluded that the Dollard dike should be kept green. This was based on his personal preference for a green dike, inspired by his affection for the dike along the German side of the Dollard and his aversion for the use of asphalt on dikes. The traditional way of strengthening the dike would namely be to cover the wave impact zone of the dike with asphalt. So after the publication of the test results, the levee specialist started framing: he was strategically making sense of reality and was adding meaning to the situation, based on his preferences and experiences. His frame at that moment thus rejected the possibility to strengthen the dike with asphalt and embraced the concept of the German dike. His affection for the German dike came into being through contacts with German experts from organizations such as the 'Landkreis' (district) Leer and the NLWKN, the Lower Saxon State Department for Waterways, Coastal and Nature Conservation. Their dike along the Dollard, characterized by a complete grass covering and a gentle slope (approximately 1:6), proved to be successful even during the so-called All Saints flood that ravaged the Netherlands and Germany in 2006. So next to the fact that the former levee specialist considered the green German dike to be nicer than a dike with asphalt covering, he was also enthusiastic about its steadiness. An interesting idea concerning the creation of such a dike also stemmed from his contacts with the German experts. They shared their thought to make use of the material that was released by all the dredging activities that are taking place in the Ems. All this mud is being dropped in the near sea, but subsequently returns to the Ems through the natural water streams. In this they saw an opportunity, as the dredged material could be placed on the salt marshes to ripe and in 20 to 25 years it could be used as building material for dikes. Not only would this alleviate the dredging activities and reduce the turbidity in the Ems-Dollard, it would also provide a sustainable and cheap method to get hold of clay. Because the salt marshes are protected nature areas, making use of these areas to store and ripe clay was regarded as an unrealistic method though. However, when the challenge concerning the Dollard dike presented itself, the levee specialist saw the opportunity to do something for nature as well. Something that might enable opportunities to use the salt marshes for the winning of clay. So making efforts for nature now, could according to him result in the most favorable and innovative method for maintaining this dike later. The preference for the German dike was even more intensified because of his aversion for the use of asphalt on dikes. He reckoned that the lifetime of asphalt was approximately 20 years, and with the 40 year lifetime of a dike in mind this means that the asphalt has to be treated while the dike itself is still in a good physical state. On top of that, asphalt will have to be placed on the dike. And considering the duration of such an activity, this will inevitably have to take place at times when floods can occur as well. Therefore additional measures will have to be used to guarantee the safety of the hinterland, which brings along extra costs. This is comparable for the use of rocks, although using such materials for a robust dike is at the same time difficult and costly. The former levee specialist thus considered grass to be a more suitable material than asphalt with regard to practical, financial and esthetic reasons.

After the testing round, the levee specialist had to illustrate and explain the results and its consequences to the management of the water board. He showed that the dike either had to be covered with asphalt or had to be reconstructed in order to keep it green. At that moment, the management unanimously stated that if possible, they preferred the dike to be kept green. He interpreted this informal decision of the management as his assignment to start exploring the possibility of the German dike along the Dutch side of the Dollard. For carrying out this assignment, he clearly chose for an integrated and participative approach: "simply because you inevitably need each other" (24 June 2013, Veendam). This understanding was developed over the years, as he started working for the water board

when an authoritarian style was hegemonic. At that point the water board functioned as an expert who was unconcerned about what the public thought. Several negative experiences that resulted in large scale objections were experienced though, which forced the levee specialist to enter into discussions with neighboring people. These events proved to him that public involvement was something that had to be dealt with very carefully, and caused his technocratic frame to be reconstructed into a less technocratic/more communicative frame. It was thus a logical move to make to choose for an integral and participatory approach. First because the gentle green dike that he intended would overlap the salt marshes, meaning that a part of the dike would be situated on the property of private owners and the nature organization. Secondly, nature had to be served so that the winning of clay would be allowed in a later stage. It was not mentioned in the interviews though that discourses on the macro, the management plan of the water board, or the water board its management so much influenced the levee specialist in his choice. Rather, it was the development of his personal frame that placed integration and participation on his personal agenda. With those reasons in mind, he figured that it would be useful to bring all the stakeholders together to share his participative intentions and to gauge the societal support for an innovative dike. Because this approach is opposite to the former authoritarian approach, it can be stated that the frame of the levee specialist reframed from a technocratic preference towards a communicative preference. However, since this did not take place from one day to another, his frame development is regarded as a sequence of frame reconstruction processes. This ultimately caused his technocratic frame to be reframed into a communicative frame, although not via reframing but rather through a sequence of reconstruction processes. In the meantime, a student applied who was searching for a graduation project concerning levees. Her application presented itself as an opportunity for the levee specialist to explore alternative and innovative possibilities for the dike along the Dollard and to prepare the stakeholder meeting.

On the 9th of December 2011 the stakeholder meeting was organized in a building in Polder Breebaart. Approximately 30 people from a wide variety of individuals and organizations participated in this meeting, and an overview of the invited participants can be found in appendix 1. Because this occurrence actually took place, the integral and participatory intention was put into practice, thereby practically supporting the written principles of the current management plan. This meeting can therefore be considered as a confirmation that the water board is indeed aiming for an integral and participatory style of water management. It furthermore confirmed that the integral and participatory discourse was institutionalized within the frame of the water board. During this meeting, presentations were given and two workshop sessions were held, in which all participants could discuss in groups some of the dike designs that were presented earlier that day. The way in which participation was applied can in this case be considered as real participation. The conclusion at the end of the day was that an innovative concept, that preserves the green appearance of the Dollard dike, is generally preferred. With regard to the German dike and the usage of clay from the Ems in particular, all participants considered this concept to be worth investigating. The enthusiasm of the participants of that day was interpreted as societal support for an exploration of the German dike, and therefore the meeting was regarded as very successful.

At some point after this stakeholder meeting, the levee specialist retired and therefore handed the project over to the two project leaders that are still on the project nowadays. One of them succeeded the levee specialist in his function and is also a member of the new High Water Protection Program, and the other, a hydrologist, succeeded the former levee specialist as a member of the Delta Program. Especially the Delta Program ultimately

enabled the possibility to explore the application of the German dike along the Dutch Dollard. Up till then, the Delta Program was mainly exploring the feasibility of innovative dikes along the whole Wadden Sea. Instead of continuing to explore these innovative concepts in general, the hydrologist from Hunze & Aa's introduced the Dollard dike project to finally make the translation to concrete practices. The 'Deltaprogramma Waddengebied' (Delta Program Wadden Area) embraced this suggestion and hence a budget was made available to actually explore the German dike in the practical context of the Dutch Dollard. At the moment that the Dollard dike project was accepted as a pilot in the Delta Program Wadden Area, the research institutes Deltares and Wageningen University and Research Centre (WUR) and Rijkswaterstaat were included in the project as well. This cooperation was labeled as the *Pilot Study Green Dollard Dike* and is being financed by the Delta Program itself and the Corporate Innovation Program of Rijkswaterstaat. An interesting addition is that the Delta Program Wadden Area explicitly states at their website that cooperation and participation are important principles in their program (Rijksoverheid, n.d. b). Because the Delta Program is a national institution under the umbrella of the central government, it already accommodates the integral and participatory discourse. Via this program the water board came even more into contact with this rising discourse.

Based upon the opportunities that the Delta Program provided, the management of Hunze & Aa's sent a letter to the new High Water Protection Program in which they stated that the water board is aiming for a green dike along the Dollard, so that it fits well in this unique landscape. Informally this awareness was already present in the minds of the project leaders though, as the former levee specialist already sensed their approval when he explained the national test results. Further processes of reframing or frame alignment were therefore not necessary in achieving managerial support. Anyhow, this letter formally showed that the management of the water board supported the idea of the German dike, and thereby that the water board as a whole prefers this solution. But despite the approval of the management, there were also individuals within the water board who disapproved the chosen approach. It appeared namely that the thought of nature organizations as the classical antithesis of the activities of the water board still exists within the board. Negative experiences caused the frames of these individuals to accommodate an aversion for cooperation with nature organizations. The managerial support nonetheless opened the way for the pilot team to actually start with the exploration, which focused on the traditional way of dike improvement and the innovative alternative of the German dike. The two possibilities were investigated in depth, among others by making calculations and conducting interviews with German experts on their dike. Cross-sections of these two possibilities that were made in this exploration are displayed in figure 9 on the next page. The cross-section of the green Dollard dike is based on the profile of the German dike along the Dollard, which can be found in appendix 2.

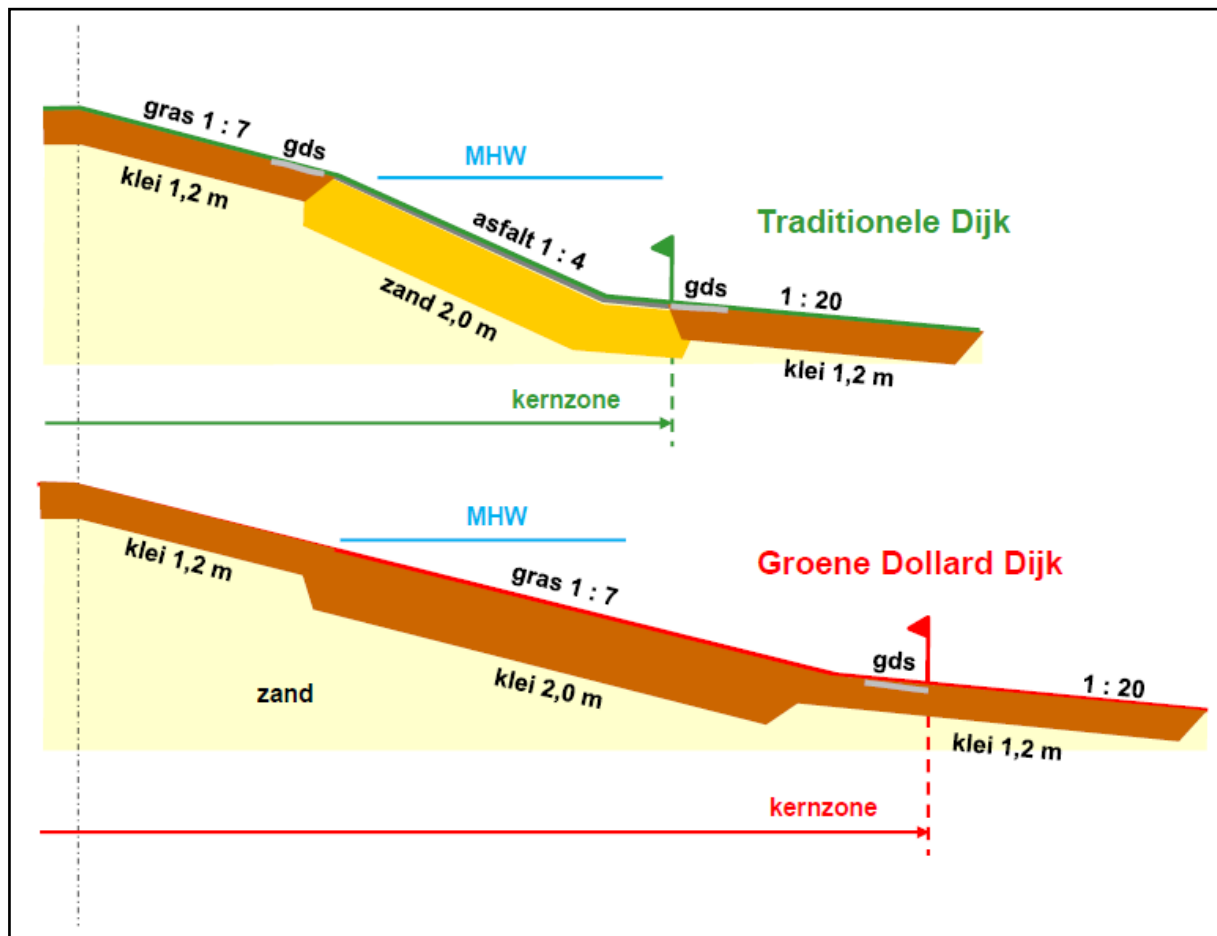


Figure 9 – Schematic cross section of the seaside of the two concepts: the traditional dike (above) and the green Dollard dike (below) (Van Loon-Steensma & Schelfhout, 2013 forthcoming). MHW means the 'leading high water' and gds refers to 'grass bricks'.

Much of the data that was collected in the exploration was to be shared with the stakeholders again. To inform the stakeholders which innovative alternative has been preferred by the water board, to gain further societal support for their approach, and to think together about possible ways to make use of the 'mud capturing capacity' of salt marshes. Somewhere along the way the idea of storing dredged mud was namely replaced by the idea of making use of the mud capturing capacity of salt marshes, referring to the potential of salt marshes to capture the mud parts that abound in the water. This method can typically be appointed as building with nature, as it uses natural processes to realize a flood management system. Another similarity with building with nature is that a sustainable system can be realized that exists and develops in harmony with nature: natural processes of sedimentation are enhanced and the salt marshes can migrate further towards the dike, while the salt marshes provide in coastal protection themselves and the sediment can subsequently be used to improve the dike when necessary. Sustainability in this context thus means that the economic, environmental and societal interests are integrated in one solution, one in which natural processes keep maintaining coastal protection and in which clay does not have to be transported from somewhere else. Furthermore, the goal to gain further societal support can be considered as a process of frame alignment. The water board wants to link their ideology and goals with those stakeholders that are important in the process, and the stakeholder meeting could make that happen. Therefore, the stakeholder meeting can be regarded as a process of frame alignment: the water board wants to align other individual or collective

frames with the frame of its own. Initially this was indeed intended to be another stakeholder meeting, but this idea was changed into a symposium instead. The idea for this came from the project leader, who preferred to invite everyone who even has the slightest connection with the Dollard dike project. He acknowledged though that it was indeed typical for the Delta Program to include stakeholders in decision-making processes, out of which can be concluded that the Delta Program influenced his frame with regard to participation. The actual organization of the symposium happened via cooperation with the communication department, which employees can be regarded as participation and communication experts within the water board.

Additionally, the symposium was organized with the assumption that nobody would object to the suggested solution. One of the project leaders even said “who can possibly be against it?” (31 May 2013, Veendam). With this he meant that the alternative of an asphalt dike that abruptly separates the dike from the salt marsh would not be preferred by the stakeholders, which made it easy for the water board to gain societal support. This shows that the project leaders analyzed the context and explored the interests of the stakeholders involved. The reasoning behind this was always that if for some reason the approach was not supported, the water board would simply choose to cover the dike with asphalt. In the end it is namely all about safety and money, because these are the two official responsibilities that the water board carries. This also shows that the water board deliberately chose for a more complex approach than required. The creation of an asphalt dike would have sufficed, but they clearly chose for an alternative that would fit better in the landscape and was expected to be cheaper on the long term. With regard to post-contingency, the water board indeed analyzed the complexity that was present in the area, and this perceived complexity was subsequently used as an argument for choosing the integral and participatory approach. The corresponding complexity of the chosen approach is namely higher than the degree of complexity that is present. All the required communication with the nature organizations and the salt marsh owners could have been prevented, but the water board thus deliberately accepted all the additional complexities in order to come up with a solution that serves all stakeholders’ interests. Without actually knowing it, the water board thus used a post-contingency approach in their search towards a suitable approach for the strengthening of the Dollard dike.

At the 25th of January in 2013 the symposium actually took place. The symposium was titled the ‘Green Dollard Dike’ and approximately 75 individuals from a variety of organizations were invited. An overview of the individuals and organizations that were invited can be found in appendix 3. The symposium made it both internally and externally clear that Dollard dike project represents an integral and participatory style of water management. They used the moment to show to what extent the water board could integrate different fields of activity into its projects and allow all stakeholders to participate in the decision-making process. During this symposium, several presentations were given where after the participants were divided into groups to discuss the suggested dike concept and the method of using the salt marshes to win clay. In one of these discussions, one of the representatives of the Wetterskip Fryslân (water board Fryslân) remarked that the water board incurs quite some additionalities by choosing this dike. This shows again that the water board is adopting a more complex approach than actually required. After these separate discussions the day was concluded with a plenary discussion, which made clear that all stakeholders support the idea of the water board. The Groninger Landschap made a critical comment though, by stating that they prefer to include the recovery of the whole Ems-Dollard into the project rather than only focusing on the area around the dike itself. This showed that the Groninger Landschap indeed supports the project, but actual cooperation with other developments in

the area will be a prerequisite. This is exactly one of those additional complexities that were just mentioned, and the response to this comment made clear that such comments are precisely what the water board wanted to gain from the symposium.

After the symposium, the communication department communicated the event to the outside. It created an opportunity to draw the attention of the media and inhabitants, because it is the first project of such a size that is initiated by the water board alone. This allowed the water board to show to the public what they are exactly doing and how they are doing it. The way this symposium is used to attract attention shows once more that the water board is proud on the Dollard dike project and its approach: this project is exactly what the water board wants to represent. By giving these signs to the public but as well to their employees, the water board was pushing their collective action frame towards structuration.

Approximately half a year after the symposium, the integral and participatory discourse can be regarded as structured in the collective action frame of the water board. Not because at this particular moment the awareness within the water board suddenly changed, rather because all the individuals were spoken to in that period, and they all conceptualized the world in a similar way: issues have to be taken care of in a participative and integrated way, so that solutions are supported and provide the best possible outcome for all. The actual moment of structuration thus took place before the interviews were conducted, but this exact moment turned out to be unidentifiable. Therefore, this particular moment has been adopted as the pragmatic moment of structuration. The marginal note that has to be added to the achievement of structuration though, is that these aspects can be aimed for as long as the safety and the budgets do not suffer from it. So within their possibilities, the water board indeed aims for participation and integration. And because of this structuration, the collective action frame of the water board can be regarded as actually integral and participatory. Both institutionalization and structuration of the integral and participatory discourse are achieved, hence the technocratic frame can be regarded as dislocated. That this is indeed the fact can be observed in a wide range of projects within the water board. It has to be stated though that it is often the case that individuals instigate integral and participatory processes. The senior policy advisor described that the direction does not pay much attention to the actual performance of projects, and individuals thus play an important role in this process. The Dollard dike project is the most sensational example, but this project is currently not so much in the spotlights because all relevant questions are to be answered first, before the next workshop with the actual stakeholders will be organized. Additionally, the communication department for instance is increasingly being involved in projects, in which they participate to advise on how to let people think along, to make use of the local knowledge that exists in a neighborhood, and to gain societal support. There are even meetings organized in which the water board is sketching together with the persons involved, so that these people can actually contribute to the development of a plan. Further the communication department, in cooperation with the project leader of course, explores what interests, problems and vulnerabilities are present in an area, so that the water board can adequately prepare for meetings in that particular area. This can also prevent discomforts and disappointments, if it turns out that there is no space and freedom to come up with participative solutions. When the practical context does not allow a participative solution, for instance when a quay is strongly demarcated, participation will not be applied because in the end it will not be of any use. Of course the people affected will have to be informed, but despite conflicting interests, actual participation simply cannot be applied in every single case. Again, this approach is in line with post-contingency: the perceived degree of complexity is used as an argument for choosing which approach to take. Furthermore, a new management plan has to be determined in 2015 and the process towards this plan is also

performed with participation and integration at the centre. It has therefore become clear that the approach in the Dollard dike project is noticeable throughout the whole water board. "In every project that can affect others, these others are involved in an early stage" (31 May 2013, Veendam). Participation and integration are thus used by the water board to increase the chance of success, they are used as means to achieve their goals. The senior policy advisor confirmed once more that the water board is indeed identifying itself with a communicative rationality. When asked how she would describe the identity of the water board, she answered without doubt: "it is simply communicative" (20 June 2013, Veendam).

4.2.5 Developments beyond dislocation

Despite the fact that the water board can be regarded to have a communicative collective action frame, there is still room for improvement. During the interviews it became clear that some of the employees also acknowledged that there is still progress to be made. One of them mentioned that the water board should more often take initiative, as is done in the Dollard dike project. This allows the water board to manifest itself, and this is important because many residents still do not see the value of the water board. Further, one of the communication advisors mentioned that the communication department is still not undisputed within the water board. There are still employees who consider communication to take place automatically, but she emphasized that this is definitely not the case. Communication is an aspect that should be applied very deliberately, because public support for the water board its actions is of much importance. The amount of people that skips communication is clearly decreasing, but it is of relevance that communication becomes self-evident in every project that the water board is working one.

Another development that the senior policy advisor mentioned is that the water board is experiencing a reverse side to the rise of participation. Because participation is increasingly applied, also by other organizations than the water board, there is a chance that people can become tired of participation. This can bring another challenge to the water board, as it could be that the number of participants that shows up decreases, hence they do not represent the actual target group of a meeting. So the more everybody stimulates participation, the more likely it is that individuals or organizations can become saturated of participation. This brings along a social paradox, as the water board wants to enhance participation as much as possible, while on the other hand the amount of participation has to be minimized in order to have a representative attendance.

A third development that is increasingly gaining attention in the Netherlands is adaptive water management. If this approach becomes dominant in the Dutch water management regime, this can ultimately influence the water board and their way of protecting the coast as well. When asked how the water board considers this approach, one of the hydrologists of the water board stated that the focus should be on prevention in the Dollard area. With this he refers to the notion of 'meerlaagsveiligheid' (multi layer safety), in which in addition to prevention, attention should also be paid to spatial design and disaster management. Prevention is thus preferred by the water board, and this is also emphasized by the Association of Regional Water Authorities and the Delta Program. It is not surprisingly though that the water board prefers to prioritize prevention, first of all because the area behind the Dollard is thinly populated and second because the approach is relatively young and therefore practical experiences are scarce. Moreover, the hydrologist also stated that basically dikes can always be heightened, as long as the soil beneath the dike is adequate. He added to that, that if the forecasts concerning sea level rise for instance turn out to be inadequate, the dike can then still be improved because such circumstances do not present

itself from one day to another. This shows that, at least for now, adaptive management is not in the interest of the water board Hunze & Aa's.

Finally, one of the cluster heads mentioned that new contract forms are appearing that will change the interplay between the water board and its inhabitants. These contracts (UAVgc, Uniform Administrative Conditions for Integrated Contracts) anticipate on the increasing role of market parties in the design of plans. In the former contracts all the conditions were specified by the water board, and the contractor had to deliver a project in that particular way. However, the awareness arose that market parties have a better understanding of how plans are to be executed than the water board itself. Therefore the new contracts are based on a list of requirements, and the contractor subsequently has the freedom to come up with a design or an executive plan in which all these requirements are being met. This means for the water board that they will no longer provide a clear, demarcated plan that is created in cooperation with affected persons or organizations. The meaning of real participation will therefore change as well, and it will be interesting to see how this will influence the relationship between the water board and its residents.

4.3 Development visualization

At this moment in time, the former technocratic collective action frame of the water board can thus be considered as dislocated. An integral and participatory frame came into place, meaning that these aspects have become dominant in the thinking and acting of Hunze & Aa's. The process towards this moment of dislocation has been described in the previous part, but for a clear overview figure 10 has been created.

The graph displays the development of the collective action frame of the water board from its origination in 2000 up to now. In each moment in time the collective action frame can be connected to a certain degree of technical or communicative rationality. This degree is not to be interpreted as an exact reflection though, it should rather be interpreted as an indication that shows the development of the collective action frame from technical approaches towards communicative approaches through time. Nor should the linear line be interpreted as an identical reflection of the water board its frame development, because the actual development took place through peaks and troughs, resulting in accelerations and decelerations in the transition from technical towards communicative. These peaks and troughs are noticeable in the events that are depicted, but for pragmatic reasons the development pathway has been simplified into a linear line. Nonetheless is it visible which events stimulated the frame development and which events hindered its development. Events that have clearly accelerated the water board its development towards a communicative rational were the establishment of the management plans 2003-2007 and 2010-2015 and the Waterdrager project. Events that decelerated the frame development were the top-down design of storage areas and the postponement of a new Management Plan in 2007. But despite the fact that the former event stagnated the transition from technical towards communicative, it ultimately led to the acceleration of this transition via the Management Plan 2003-2007 and the Waterdrager project that responded to the stagnation. This shows that the water board used hindering events to create stimulating events. In other words, the water board turned a crisis into an opportunity of which its collective action frame is nowadays still benefiting.

The moments of frame generation, destabilization, institutionalization and dislocation are displayed by stars as well, in combination with the particular event that caused this moment to happen. This clarifies which events played an important role in the development of the

water board its frame. Discursive changes within Dutch water management on the macro are included also, so that the collective action frame of Hunze & Aa's can be reviewed with regard to events outside the water board as well. The events that cannot directly be connected to a certain degree of technical or communicative rationality are displayed outside the graph.

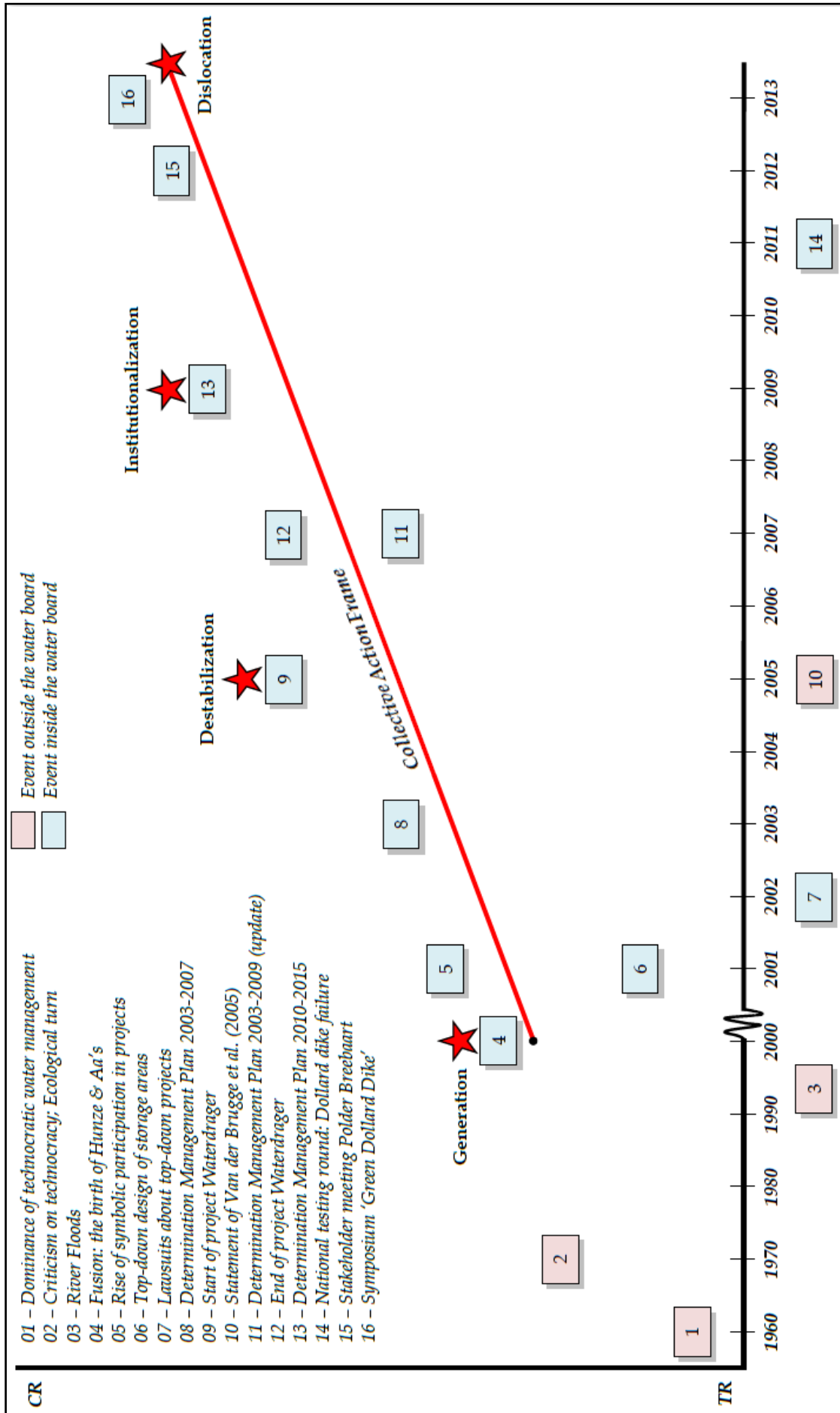


Figure 10 – Overview of the development of the collective action frame of the water board Hunze & Aa's from the fusion in 2000 up to now. TR refers to a technical rationality, and CR stands for a communicative rationality. Events that cannot directly be connected to a certain degree of technical or communicative rationality are displayed outside the graph.



5. Discussion & conclusion

The previous chapter made clear that quite some developments took place in water management, both on the macro and on the micro. This development can generally be characterized as a transition from technocratic to integral and participatory water management. On the Dutch macro level, this transition was already initiated in the 1970s. For this transition to become successful though, Van der Brugge et al. stated in 2005 that the organizational structure of the regional water boards had to be adapted. The empirical focus in this report was specifically on the water board Hunze & Aa's, and the findings of the empirical research showed that the collective action frame of the water board was at that moment in 2005 indeed inadequate to fully include the integral and participatory discourse. The years that followed made clear though that the water board developed its frame according to the transition that was noticeable in the scientific literature. This resulted in the dislocation of the former technocratic frame, hence the integral and participatory discourse has become dominant in the frame of Hunze & Aa's. The Dollard dike project, that embraced the ideas of integration and participation, can thus be considered as a reflection of the altered collective action frame of the water board. This in contrast to what was initially assumed, since the project was expected to be the instigator for a changing frame of the water board.

This concluding chapter deals in the first place with the research questions, which are answered based on the empirical findings. The sub-questions are answered first, where after the main research questions is processed. The second part is about the discussion. The empirical findings of this report are analyzed with reference to the theory, the research

results and future developments. This also clarifies the synergy between theory and practice that this report provides. After that, the recommendations from this report to the water board are described. These have to do with both current and possible future developments. The fourth part discusses the possibilities for further research, and the fifth subsequently deals with the reflection of this report, in which the theoretical framework, the methodology and the research results are reflected. This chapter is closed by the conclusion, in which the report is shortly reviewed.

5.1 Answering the research questions

This part connects the empirical results with to the research questions. The sub-questions are answered first, where after the main research question is discussed. In advance of each answer, the related question is formulated once more.

1. What does the collective action frame of the water board consist of?

Via processes of generation, destabilization and dislocation, the former technocratic collective action frame of the water board was developed into a communicative frame. Especially the moment of dislocation allows to state what the collective action frame of the water board exactly consists of, because this moment finally caused the technocratic perspective to be abandoned. One of the interviewees already described that the frame of the water board is simply communicative, and the empirical findings of this research can only underline this answer. Because the integral and participatory discourse became dominant in the collective action frame of the water board, and because this discourse represents a communicative rationality, it can be deduced that the water board its collective action frame can be regarded as communicative.

2. To what extent is the approach in the Dollard dike project different from this frame?

Concerning this second question, the elaboration on the Dollard dike project showed that the chosen approach in this project is surrounded by the notions of integration and participation. When the approach in the project is compared to the collective action frame of this moment, it can be concluded that the project reflects the water board its collective action frame. The frame of Hunze & Aa's has witnessed a development from a technical rationality towards a communicative rationality, and along the way the water board continuously improved in executing participatory and integral projects. Rather than being different from this frame, the Dollard dike project thus reflects the improvement that the water board has experienced.

3. Why has been chosen for the specific approach in the Dollard dike project?

With reference to the third question, it can be concluded that the reasons for the approach in this project were mainly based on individual frames. Discourses did influence these individual frames, such as those that were present in the institutional frameworks or the Delta Program, but the actual motivation to do things different turned out to be processes of learning. Events that individuals within the water board faced caused their frames to be reconstructed or reframed, which resulted into accommodation of the integral and participatory discourse within these individual frames. Despite the fact that the water board was already getting close to actual dislocation of their destabilized, technocratic frame at the beginning of this project, negative, personal experiences with the technocratic discourse that instigated processes of learning were thus the main reason why the integral and participatory approach has been chosen.

4. To what degree is the approach in the Dollard dike project noticeable in other projects as well?

The approach in the Dollard dike project is noticeable in several other projects as well. Because the integral and participatory discourse did become dominant within the frame of the water board, from a theoretical perspective this logically means that the approach of the Dollard dike project is also noticeable in other projects. This conclusion is based on the Waterdrager project and on several of the interviewees, who stated that integration and participation are applied in every project that affects others.

5. How does the approach in this project relate to theories on water management?

Referring to the fifth question, the idea to work integral and participatory are in accordance with the national discourses on water management. The so-called transition in Dutch water management namely deals exactly with the notions that are at the centre of the Dollard dike project. In addition to that, the approach of building with nature is also adopted, since the water board is aiming to make use of natural sedimentation processes to get hold of clay for the dike improvement. Additionally, clay that is needed for possible future dike improvements can be provided as well due to these continuous processes of sedimentation in the Dollard. Therefore, this method avoids that huge amounts of clay have to be transported to the Dollard, which makes it a sustainable and cheap method for realizing and maintaining the Dollard dike. The last link between the Dollard dike project and theory can be found in the application of post-contingency theory. Although unconscious, the water board analyzed the context in the Dollard area whereupon an approach was chosen that does not directly match the perceived complexity that is present. The integral and participatory approach that has been adopted in the project namely corresponds to a higher degree of complexity than actually present. Strengthening the dike by covering the wave impact zone with asphalt would have sufficed, as would the realization of a green dike by transporting the clay from elsewhere. However, the project leaders nonetheless preferred the innovative German dike that makes use of natural processes, and thereby accepted all additional complexities that this dike concept brings along. This shows that the chosen approach is well-considered, hence the project leaders were perfectly aware of what they got themselves into. Several theories that were explored in the theoretical framework are thus present in the Dollard dike project.

6. How is the water board guiding the shift of its collective action frame?

With regard to the last sub-question, the water board allows its employees to work in freedom so that individual frames have the opportunity to add something to a project. The management plans that were determined over the years guided the employees towards a more integral and participatory style of water management, but the actual moments of change were instigated by individual behavior. It can be concluded therefore that the water board does not guide its employees in executing their projects exactly as the management plan describes. This was confirmed by the senior policy advisor that was interviewed, who described that the management does not pay much attention to the actual performance of projects. This shows that the water board was indeed guiding its shift from a technical towards a communicative rationality through the management plans, however further guidance in the development from these intentional plans towards actual projects did not take place.

With all the sub-questions answered, the main research question can be answered as well. The main research question was formulated as follows:

To what extent does the Dollard dike project represent a change of the collective action frame of the water board, why is this change happening and what does this entail?

Based on the empirical findings, the Dollard dike indeed represents a change of the collective action frame of the water board. However, it was assumed that the Dollard dike project instigated this frame to change, but it turns out that the project is merely reflecting this change. Founded on the statement of Van der Brugge et al. in 2005, and strengthened by the fact that the scientific literature did not mention that the statement was not valid anymore, it was assumed that the collective action frame of the water board could still be identified with a more technocratic discourse. This is proved to be a wrong assumption, and therefore it can be concluded that the Dollard dike project is executed according to Hunze & Aa's its frame. The project thus fully represents a change of the collective action frame, but this change was initiated already during the process of frame generation in the early 2000s. Similar to the Dollard dike project in particular, the collective action frame followed the transition on the national level to develop their own technocratic frame towards dislocation, hence the integral and participatory discourse became dominant within their frame. Despite the fact that this transition was already stagnated in 2005 due to the organizational structure of the regional water boards, the development of Hunze & Aa's that has taken place since then can still be regarded as in line with the transition. Instead of what was expected in the hypothesis, the main reasons for this change turned out to be the individual frames within the water board. The hypothesis expected that the interplay between discourses and individual frames ultimately influenced the collective action frame towards destabilization and dislocation. However, as stated before, discourses only played a marginal role whereas individual frames should be regarded as the main instigator of the development of the collective action frame. Both discourses and individual frames agreed on the fact that the technocratic discourse is no longer sufficient in water management nowadays, but the interplay between them was less than expected. Furthermore, it is difficult to determine to what extent the project actually influenced the frame of the water board. The moment of dislocation was indicated halfway 2013, but as stated before, the actual moment of dislocation took place before that. But because the interviewees could not clearly state what this exact moment was, the moment of observation was for pragmatic reasons chosen as the moment of dislocation. This means that it is difficult to judge whether the Dollard dike project gave the last push towards structuration, or if structuration would have taken place regardless of the Dollard dike project. What is certain is that the project confirmed that the water board wants to represent an integral and participatory style of water management, and that the project positively distributed that message throughout the organization itself and its field of activity. With regard to the last part of the main research question, it can be concluded the meaning of the Dollard dike project for the water board does no longer apply, due to the fact that the frame of the water board already accommodates the integral and participatory discourse. Therefore the water board is well aware of what a communicative approach entails. However, it also became clear that new developments are already appearing which will influence the collective action frame of the water board as well. This shows that the communicative frame should not be considered as a steady state, because the frame reasonably has to continue developing to accommodate these developments as well. Therefore, the transition of the collective action frame should neither be regarded as achieved. What this means for the water board is explained in the following discussion.

5.2 Discussion

The conceptual model that was created based on the theoretical framework, assumed that discourses on the global or national level are influencing the collective action frame of the water board via individual frames. Discourses cannot directly influence a collective action frame, as a collective can only be influenced via its constituents. Because this collective consists out of multiple individual frames, discourses will always have to use individual frames to reach a collective action frame. When discourses are institutionalized in laws or frameworks they can reach the collective as a whole, however the further distribution of these laws or frameworks through the organization is subsequently dependent on individuals within this collective. This conceptual model was very useful for gathering and analyzing the data in this report, but the practical representation of this model turned out to be slightly different though. The empirical research in this report showed that the main motivation for change did not come from discourses that indirectly influenced the collective action frame of the water board Hunze & Aa's. Only to a certain extent were individual frames influenced by the integral and participatory discourse, via national institutional frameworks or the Delta Program for instance. Instead, the development of individual frames regardless these discourses were the main input for the transition from technocratic towards integral and participatory water management. Processes of frame reconstruction and reframing allowed individual frames to learn from experiences, and the organizational culture of the water board subsequently enabled these adjusted individual frames to influence the collective action frame. Therefore it can be concluded that the theoretical model does represent practice, however the emphasis in this model proved to be on individual frames rather than on discourses.

First of all this shows that without a major influence of discourses, the transition of the water board nonetheless took place according to the transition on the national level. This means that the situations that caused the integral and participatory discourse to arise were also experienced by individuals within the water board. Such situations existed out of issues in which technocratic approaches increasingly turned out to be inadequate. The theories that were discussed in the theoretical framework, concerning the developments in planning theory in general and water management in particular, are thus identifiable in practice. This applies for the theory of post-contingency as well, which was also identified in the Dollard dike project without actually being influenced by this theory. This theory was only recently introduced in social science (Zuidema, 2013 forthcoming), and the Dollard dike project proves, by using the perceived complexity of the context as an argument for choosing an approach, that this theory can be useful in practice. The empirical findings of this report therefore confirm the validity of the theories on planning that were discussed. And because the transition in Dutch water management touches directly on the transition of the water board, these two cannot be seen separate from each other. So, the development of the water board, that is being reflected in the Dollard dike project, has taken place in relationship with the discursive dynamics on the macro, which makes the whole transition from technocratic to integral and participatory water management to be a multi-level process. It can therefore be expected that these situations appear all over the Netherlands and that other water boards are experiencing similar developments. The linkage between the different levels is difficult to observe though, because such transitions do not take place from one day to another. When looking at the development of the frame of the water board, it can be said that the process took a long period. At the moment of frame generation, there were already characteristics of an integral and participatory discourse present, and the development from that point towards actual dislocation took more than 10 years. It can therefore be concluded that the total period of development from technical towards communicative took even longer.

Because the frames of the water boards before the fusion were left aside in this research, it is however impossible to indicate in how many years the total development took place. Nonetheless it can be concluded from the empirical findings that organizational change is a process that takes years, perhaps even decades. So when Van der Brugge et al. stated in 2005 that the organizational structure of the water boards were stagnating the transition in Dutch water management, it should actually be remarked that the transition was at that moment already taking place within Hunze & Aa's, although it was running one or two steps behind. Organizational change simply needs time, and patience is therefore required to let this change actually take place: the patience since 2005 is finally rewarded because after approximately eight years of gradual improvement, the frame of the water board can be regarded as integral and participatory.

Secondly, the practical representation of the conceptual model shows that individual frames play a vital role in the water board. The empirical findings provide examples that all describe an event in which actions based on individual frames turn out positively. This proves that the water board allows its employees to work in freedom, instead of strictly instructing them what to do and how to do it. This lack of guidance could be regarded as a shortcoming, but the practical examples show that important changes for the good of the water board are exactly the result of this non-guiding way of managing. It proves that development and innovation are most likely to be achieved when individuals have the freedom to act, based upon their individual frames. This also has a flipside though, because how are institutional changes on the (inter)national level to be adequately implemented on the local level if change is so dependent on individual frames? This was already showed in the transition in Dutch water management: approximately eight years later than the macro, the water board arrives at the point where integration and participation can be regarded as dominant in their frame. As explained before, transitions are long-lasting processes, but for new institutional arrangements to be actually implemented, this can pose a serious challenge. Anyhow, by allowing this freedom to its employees, the water board enables them to adapt to circumstances that are encountered and subsequently to learn from it. This shows that the water board is not a static organization in time, rather it develops its collective action frame according to the dynamics that are faced in a specific context. Also, this bears resemblances to adaptive organizations, as discussed by Termeer & Van den Brink (2013). They describe seven organizational conditions that can help organizations to better cope with surprises and disturbances: allow for clear identities, appreciate past experiences, stay in motion, interact respectfully, encourage improvisation and bricolage, look closely and update often, and develop an attitude of wisdom (Termeer & Van den Brink, 2013). By allowing their employees to act according to their own identity that is generated through experiences in the past, by increasingly interacting with inhabitants and organizations within their field of activity, and by allowing experiments and explorations such as the Dollard dike project, the water board already possesses many of these adaptive, organizational conditions. The way that this relates to other organizations with regard to their development towards an adaptive organization is unclear though, but nonetheless it can be stated that the water board corresponds with many of these adaptive, organizational conditions.

Furthermore, the developments that are taking or can take place after the moment of dislocation show that both the discursive level and the local, contextual level are continuously changing. This will require further adaptation from the water board, hence this is proving even more that the water board needs to be continuously developing. It was already stated that the water board allows its employees to adapt and to learn, and this subsequently enables the collective action frame to develop. Therefore it is also unjust to state that the water board has now reached its goal because it can be regarded as

communicative. It should rather be interpreted as confirmation that the water board has reached a certain phase in its development, and that unavoidably next phases will appear as well for which other adjustments are required. It was already stated that within the water board there are still improvements to be made with regard to communication, which shows that the transition towards a communicative frame is still taking place. But further developments outside the water board will also appear, which can possibly delay this transition or perhaps even force this transition to continue in another direction. So that is why the collective action frame of the water board is and will be continuously in development. This development is additionally not characterized by linearity, which can be analyzed with reference to the discursive moments in the development of Hunze & Aa's its collective action frame. As explained before, it was impossible to identify the exact moment of dislocation. This was not only because the transition in the water board was such a long and gradual process, the development path was also characterized by peaks and troughs, and accelerations and decelerations. Several events took place and each individual within the water board interprets these events according to their own frame, which clarifies that it was not one event that was ultimately decisive in the way the water board conceptualizes the world. The moment of destabilization provides a similar example, since the law suits initially slowed the water board down in its development towards integration and participation, but eventually this obstacle was turned into a window of opportunity that led to the moment of destabilization. Without these negative law suits, the water board would probably not be as far in their development towards integration and participation as it is now. Organizational development of the water board therefore is a non-linear process that is difficult to influence and to predict.

As a summary of the above, it is concluded that the theories from the scientific literature correspond with the development of the water board as well as with the Dollard dike project. The transition in Dutch water management and the transition of the collective action frame of the water board should therefore be regarded as a single, multi-level process. Furthermore, individual frames proved to be of vital importance in the development of the water board. Because the water board allows individuals to act according to their individual frames, processes of learning are enabled which can subsequently influence the frame of the water board. Moreover, the development of the water board is covering a long period and this development is regarded to be non-linear and continuously present in the water board. Instead of being a static organization, the water board learns and adapts continuously which makes it a dynamic organization.

5.3 Recommendations

Based on the research results and the discussion, there are also some recommendations that can be given to help improve the water board in its further development. The first recommendation concerns the further development of the collective action frame of the water board. The historical overview showed that Hunze & Aa's allows their employees to work in freedom, which enables them to adapt to circumstances and to learn from these via processes of framing, frame reconstruction and reframing. It also showed that the water board gains from these learning processes, because their collective action frame developed mainly due to the efforts of individuals from a technocratic towards an integral and participatory style. In order to adjust to future developments as well, the water board should maintain this open and loose culture so that their employees can adapt to circumstances and subsequently learn from them. These individual frames in their turn can influence the collective action frame of the water board, so that the water board does not become a static organization in a dynamic environment.

Additionally, it is important for the water board to monitor the way in which projects are being executed. This report shows that individual frames have had a positive influence on the development of the water board its collective action frame, and therefore it is justifiable that employees are allowed to work in freedom, which means without strict managerial direction. However, when the influence of an individual turns out to negatively influence the frame of the water board, it is important that at such moment guidance is given in order to prevent that damage is caused to the collective action frame. Because such negative influences were not encountered in this research, it cannot be assessed to what extent the water board would guide such negative influences. Nonetheless it is important to emphasize that an open organizational culture can positively influence a frame. If negative influences are observed on the other hand, the water board has to intervene, and in order to do so the execution of projects needs to be properly monitored.

With regard to the transition from a technocratic frame towards an integral and participatory frame, it is recommended that the water board keeps improving. That the technocratic frame was finally dislocated should namely not be interpreted as a completion of the transition. It was identified that communicative approaches are increasingly being used, however communication is still not undisputed within the water board. By continuously emphasizing that communicative approaches are proving to be successful, the amount of people that neglects communication can be further depleted. This is a task that the management of the water board or the heads of department can pay more attention to. Communication should in this sentence be interpreted in its widest sense of meaning though, referring to the fact that people always have to be informed about planned intentions or activities. For each project on itself the specific amount of communication subsequently has to be determined, by making use of a post-contingency perspective. By doing so, the water board prevents that an approach is chosen that does not suit the context. Especially because the majority of planning issues is located between the two extremes of technical and communicative rationality, one of these extremes should not be permanently adopted as a panacea. Therefore the water board should continue to analyze the context in advance of an approach, and subsequently use the perceived degree of complexity in this context as an argument for the choice of the actual approach. When this is applied adequately, unexpected disappointments will be decreased to a minimum.

A fourth recommendation concerns the Dollard dike project specifically. This project is already being executed with the notions of integration and participation at the centre, and the interviews and the symposium indicated that up to now there is nothing but positive feedback. With regard to the further development of this project it is important to emphasize though that communication with the stakeholders as well as with the inhabitants should keep taking place. Especially because the actual realization of the project is so far away, people might tend to avert their comments or objections to the future. And because the water board is ultimately responsible, they should make sure that everybody is informed in time so that formal objections will be prevented. Furthermore, at the symposium it was announced that the process towards the green Dollard dike should become a cooperation between the water board, the salt marsh owners and the nature organizations. The water board explicitly asked for input, but again it is important to keep communicating with those affected to actually receive the input. Not receiving input does namely not mean that there is no input. Also should those private owners and organizations continuously be informed, also in periods that no important announcements can be made. Otherwise they might get the feeling to be ignored, and for the benefit of the project the support of these people and organizations is vital.

The last recommendation is about the new contracts that are appearing within the water board. To prepare for this new situation, the water board can explore existing experiences with such contracts in the field of infrastructure planning for instance. In this field of planning, integrated contracts are being used as well, for example via so-called DBFM (design build finance maintain) contracts. For adequately preparing for these new contracts, and to avoid unexpected disappointments, the water board can research to what extent the experiences in infrastructure planning can be used for their benefit (see for instance Lenferink et al., 2012).

As a summary of the above, the following recommendations are given to the water board:

1. Maintain the open work culture to stimulate learning;
2. Monitor the execution of projects to prevent negative influences for the collective action frame;
3. Keep emphasizing the importance of communication;
4. Use post-contingency theory to choose the right approach;
5. Keep informing the stakeholders and inhabitants about the Dollard dike project;
6. Explore other planning fields to prepare for the use of integrated contracts.

5.4 Further research

The empirical findings of this research provide, in addition to an answer to the research questions, input for further research as well. The first thing to mention is that it would be interesting to research how institutional dynamics on the macro can be adequately transferred to the micro. It was demonstrated before that the water board was running one or two steps behind on the national level, which shows that the implementation of national policy changes is an elaborate process. With the outcome of this report in mind, that individual frames played such a vital role in the development of the water board its frame, it is the question how national policies for instance can be best guided via frames to actually influence or change the collective action frame of a water board.

Secondly, it would be interesting to compare the results from the water board Hunze & Aa's with frames of other water boards. Because Hunze & Aa's turned out to have included the integral and participatory discourse in their frame, it can be assumed that such developments took and are taking place in other water boards as well. This even allows to continue the analysis of the transition in Dutch water management: when a representative number of water boards in the Netherlands is analyzed, it would be fascinating to explore whether the transition can be regarded as completed yet. The understanding within Hunze & Aa's was that they are further in their development than the surrounding water boards, such as Fryslân and Noorderzijlvest. The comment that one of the employees of the water board Fryslân made during the symposium, that Hunze & Aa's incurs quite some additionalities by choosing the German dike, can perhaps be interpreted as a confirmation of this understanding. It shows namely that this individual, representing the water board Fryslân, would probably choose for another approach. If it indeed turns out that the transition is still unsuccessful, the findings from this research can perhaps be used to make clear how the integral and participatory discourse can be disseminated on the level of the water boards.

Building upon the comparison between different water boards, further research could also focus on the extent to which the importance of individual frames is noticeable in these organizations. It would be interesting to find out whether discourses for instance have more

influence in these organizations, and if so, what could be the reason for this difference. This would also allow for an organizational comparison, and the actual value of the open and loose work culture within Hunze & Aa's could then perhaps be better evaluated.

The fourth and final suggestion for further research is to compare the approach of the water board with approaches of organizations in other fields of planning. This research showed that the development of the water board was in line with the discursive dynamics in water management, but perhaps a comparison with organizations from infrastructure or environmental planning can provide further useful assistance. That is because these planning sectors have witnessed similar developments as those in water management. The shift from a technical towards a communicative rationality took place in the whole field of spatial planning, and when experiences from these different fields are shared, this may provide benefits for all.

5.5 Reflection

When reflecting on the literature review, the methodology and the empirical research, it can be concluded that the discourse and framing perspectives that were adopted proved to be valid. The use of these perspectives allowed to analyze the water board both from above and from within, resulting in an elaborate overview of how the water board developed over the years. With this overview it was subsequently possible to answer all the research questions, which proves that the theoretical model provided a suitable approach to gather data that answered the research questions. With regard to the methods that were used to create this overview, it can be stated that the interviews and policy document analysis supplemented each other: both methods were required and both also provided the information that was necessary. Without analyzing the policy documents it would have been impossible to observe the moment of discourse institutionalization, hence the moment of dislocation neither, and without the interviews all the processes of framing and reframing and their influence on the collective action frame would not have been encountered. One could remark though that without interviews it would still be possible to analyze what the collective action frame looks like, and to what extent the Dollard dike project corresponds with this frame. The reasons for the development would not have been clear, but it would have made clear how this development took place and what its current state is. However, this report made clear that there is a difference between the intentions of policy documents and the actual actions that are produced out of it. Therefore the analysis of policy documents alone would not have sufficed, because practice has to be reviewed as well to come up with a judgment concerning a collective action frame. This can be underlined with reference to the determination of the first management plan at the end of 2002. When based solely on this management plan, the conclusion would be that the collective action frame already had quite some resemblances with the integral and participatory discourse. However, the interviews made clear that at that moment the frame was still technocratic, as destabilization of the technocratic frame only took place in 2005. This shows that the combination of interviews and policy documents guaranteed the validity for analyzing the collective action frame of Hunze & Aa's.

Another aspect concerning the validity of this report is the relationship between the Dollard dike project and the collective action frame of the water board. The largest part that was written about the empirical findings concerned the Dollard dike project, but other projects within the water board were discussed as well. By doing so, it was prevented that the conclusion about the Dollard dike project was the only input for the determination of the collective action frame at this moment. Because other projects were reviewed as well,

although by far not as detailed as the Dollard dike project, a valid judgment could be given on the collective action frame of the water board.

Concerning the reliability of the results it has to be stated that the interviewees were chosen from different departments within the water board, so that different frames were analyzed throughout the whole organization. More interviews would of course have strengthened the conclusion, however the seven interviews with the water board are regarded to give an accurate reflection of the collective action frame. This is because of each relevant event at least one involved individual has been interviewed. Besides, individuals from all the departments that have something to do with the preparation and/or execution of projects were interviewed. Therefore, the amount of seven interviewees, in combination with the analyzed policy documents, is representative for the collective action frame of the water board. Interviews with the policy makers and the writers of the different management plans could have provided more information, for instance about how discourses found their feet in the management plans, but these interviews did not fit in the timeframe of this thesis. The individuals who are relating in some way to projects within the water board have thus been prioritized, because the management plans themselves already provided lots of information.

Furthermore, in the methodology it was already mentioned that the designation of the discursive moments was argumentative and subjective. Criteria that were mentioned in the scientific literature have been used, but the actual determination of the moments of frame destabilization and dislocation required a subjective and argumentative reasoning. But because these determinations are extensively described and based upon the information that was empirically gathered via the management plans and representative interviews, it can be assumed that other researchers would end up with the same conclusions as those of this report.

What would be done differently the next time has to do with the interviews. Sending the questions in advance and recording the interviews was experienced as very useful, however the questions that were sent in advance contained some keywords behind them. These keywords were put there as an indication of possible answers for the interviewer, however it turned out that the interviewees sometimes choose from the keywords that were written instead of coming up with own answers. This could have harmed the reliability of the interview results, however this was minimized because similar questions were asked so that each important answer was confirmed by the interviewee. For a next research, these keywords will nonetheless only be written on the interviewer's questions so that the interviewees are not influenced by these keywords.

5.6 Conclusion

This report aimed to clarify the developments that are taking place within the water board Hunze & Aa's. The Dollard dike project was an indication for a changing collective action frame, because the integral and participatory aspects of this project were expected to be different from the assumed technocratic frame of the water board. That was because the scientific literature stated that the organizational structure of the regional water boards was stagnating the transition in Dutch water management already in 2005. And because no further signs were provided that the water boards had indeed changed since then, it was assumed that their frame could still be considered as technocratic. The Dollard dike project was therefore presumed to be the instigator for a changing collective action frame, but it turned out that the project was merely a reflection of this frame. It was discovered that this frame had already witnessed a transition from a technocratic towards an integral and

participatory style of water management, which resulted in the latter as being dominant within the water board. The water board should therefore be regarded as in line with a communicative rationality rather than a technical rationality. This does however not mean that a steady state is achieved: the transition can still be continued towards a better inclusion of integration and participation, but additional developments will appear as well that can force the water board to keep developing.

The reasons for this change were hypothesized as an interplay between discourses on the global or national level and individual frames on the level of the water board. It became clear though that the influence of these discourses were rather marginal, and that the individual frames were the major influence instead. Processes of frame reconstruction and reframing caused individuals to change their perspectives, and this ultimately led to the replacement of the former technocratic frame by an integral and participatory frame. Individual frames thus played a major role in the development of the collective action frame, and this was made possible because the water board allowed their employees to work in freedom. This enabled them to act according to their frame, to adapt to circumstances when necessary, and subsequently to learn from it. The quote of Albert Einstein that was written at the beginning of this report represents this observation perfectly:

“Everything that is really great and inspiring is created by the individual who can labor in freedom”

Einstein did of course not refer to the freedom that an employee can experience in an organizational culture, rather freedom should here be interpreted in its purest sense. But nonetheless this quote ‘hits the nail on the head’ with regard to the water board. Because the individuals were given the freedom that they got to execute their activities, they were able to positively influence the collective action frame. If they had to work within strict boundaries without any possibility to adapt and to learn, the transition would not have occurred as it did now. This also applies for the Dollard dike project in particular. Due to individual efforts the approach is surrounded by integration and participation, which makes it an impressive and, at least up to now, successful project. This shows that individual frames, and the enthusiasm that flows out of that, are vital in the pathway towards organizational improvement. Individuals that work in freedom are therefore able to create really great and inspiring things.



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List of interviewees

Ahlhorn, Frank, *professor integrated coastal zone management at the university of Oldenburg. Oldenburg, Germany, 24 January 2013.*

Bartelds, Anton, *hydrologist at the water board Hunze & Aa's. Veendam, The Netherlands, 3 July 2013.*

Beening, Armin & Michels, Stefan, *Rheider Deichacht. Jemgum, Germany, 10 January 2013.*

Beuling, Tanja, *cluster head projects at the water board Hunze & Aa's. Veendam, The Netherlands, 24 June 2013.*

Hensmann, Arnold & Berends, Jan, *NLWKN. Leer, Germany, 4 February 2013.*

Jolink, Erik, *hydrologist and project leader of the Dollard dike project at the water board Hunze & Aa's. Veendam, The Netherlands, 31 May 2013.*

Kuiper, Cora, *communication advisor at the water board Hunze & Aa's. Veendam, The Netherlands, 3 July 2013.*

Leij van der, Henk, *levee specialist and project leader of the Dollard dike project at the water board Hunze & Aa's. Veendam, The Netherlands, 31 May 2013.*

Lentz, Kampe, *former levee specialist at the water board Hunze & Aa's. Veendam, The Netherlands, 24 June 2013.*

Meijer, Marie-Louise, *senior policy advisor at the water board Hunze & Aa's. Veendam, The Netherlands, 20 June 2013.*

Spekker, Peter, *Landkreis Leer. Leer, Germany, 27 March 2013.*

Appendices

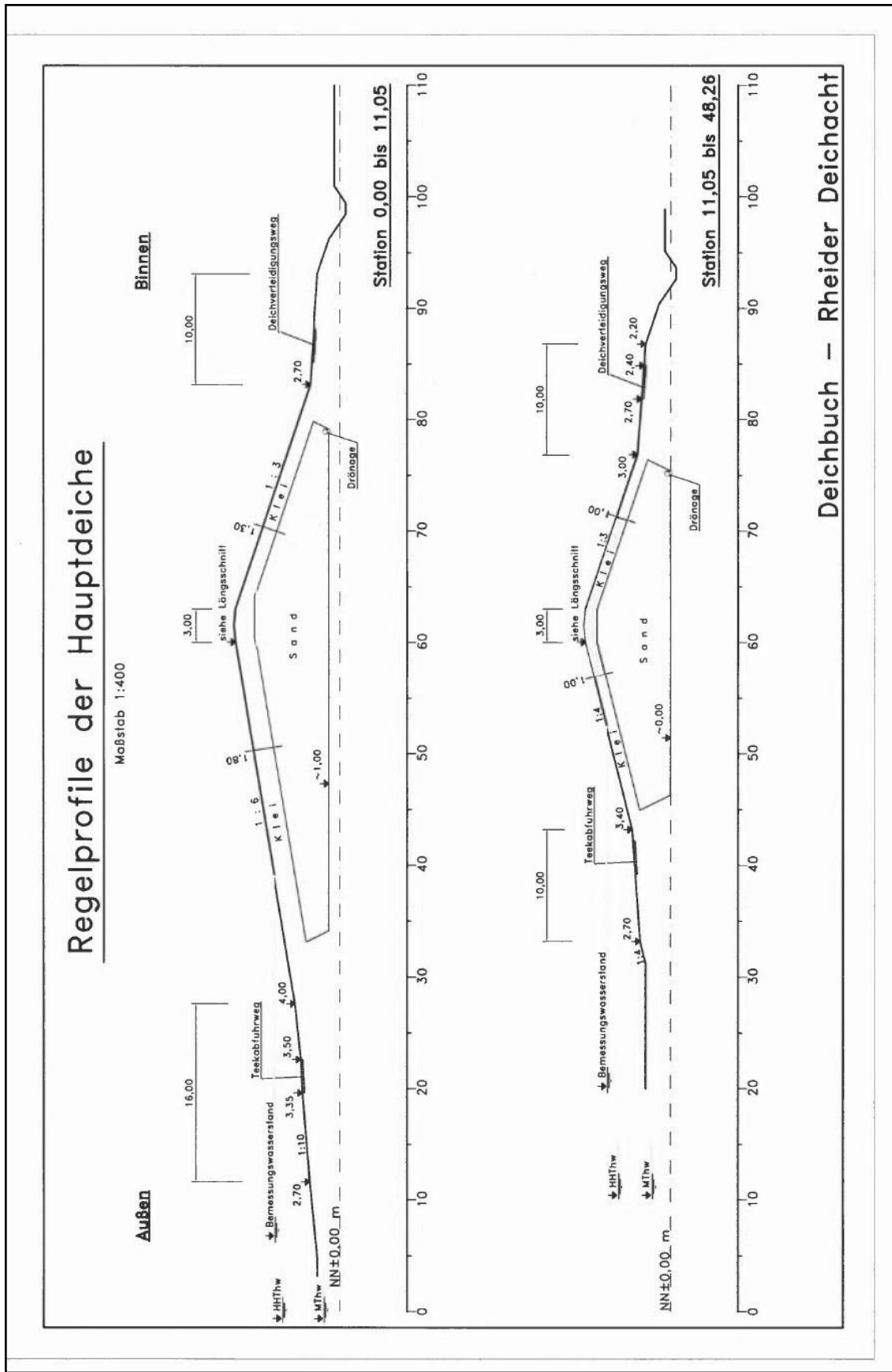
Appendix 1

Individuals and organizations that were invited for the participative stakeholder meeting in Polder Breebaart at 9 December 2011.

Organization	Amount of persons invited
Association salt marsh owners	1
Deltares	1
District Leer (Dld)	1
Hanze University	2
Groninger Landschap	3
Grontmij	1
Johannes Kerkhovenpolder	1
Ministry of Economic Affairs	2
NLWKN (Dld)	2
Oranjewoud	3
P2 Projectmanagement	1
Province of Groningen	1
Rheider dike board (Dld)	1
Rijkswaterstaat	1
Salt marsh owners	2
Stichting Kwelderherstel	1
Water board Fryslan	1
Water board Hunze & Aa's	7
Water board Noorderzijlvest	2

Appendix 2

Profiles of the dike along the German side of the Dollard and the Ems (Deichbuch der Rheider Deichacht, June 1996). The upper profile is located along the Dollard, from the border at Nieuw Stanzijl up to the estuary of the Ems at Pogum.



Appendix 3

Individuals and organizations that were invited for the symposium 'Green Dollard Dike' in Veendam at 25 January 2013.

Organization	Amount of persons invited
Delta Program Wadden Area	9
Deltares	3
Dienst Landelijk Gebied	1
District Leer (Dld)	1
Groninger Landschap	4
Ministry of Economic Affairs	4
Municipality Delfzijl	1
Municipality Oldambt	1
NLWKN (Dld)	3
Onverdeelde Munnikeveen BV	1
Programmabureau HWBP	1
Programmabureau nHWBP	1
Programma naar een Rijke Waddenzee	2
Province of Groningen	1
Researcher	1
Rheider dike board (Dld)	1
Rijkswaterstaat	3
Salt marsh owners	2
Stichting Landschap Oldambt	2
University of Groningen	1
University of Oldenburg	1
Vereniging van oevereigenaren en -gebruikers	1
Wageningen University	1
Wageningen University and Research Centre	3
Water board Fryslan	2
Water board Hunze & Aa's	20
Water board Noorderzijlvest	2
Wiertsema & Partners BV	1